SuperAP 550G V2

User Manual

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Ch 1. First Time Configuration

There are two ways to configure the device, one is through web-browser, and the other is through Secure Shell CLI interface. To access the configuration interfaces, make sure you are using a computer connected to the same network as the device. The default IP address of the device is 192.168.2.254, and the subnet-mask is 255.255.255.0.

The device has three operation modes (Router/Bridge/WISP). In bridge mode, also known as AP Client, you can access the device by both WLAN (Wireless Local Area Network) and wired LAN. And in router/WISP modes, the device can be accessed by both WLAN and WAN. The default IP addresses for the device are 192.168.2.254(for LAN), 172.1.1.1(for WAN), so you need to make sure the IP address of your PC is in the same subnet as the device, such as 192.168.2.X (for LAN), 172.1.1.X (for WAN).

Please note that the DHCP server inside the device is default to up and running. Do not have multiple DHCP servers in your network environment, otherwise it will cause abnormal situation.

We also provide an auto-discovery tool which is for finding out the IP of the device. In case, you've forgot the IP of the device or the IP of the device has been changed, you can use the tool to find out the IP of the device even your PC is not in the same subnet as the device is.

Knowing the Network Application

The device can act as the following roles, and it supports WDS (Wireless Distribution System) function.

- Access Point
- WDS (Wireless Repeater)
- Bridge/Router
- WISP
- AP Client

The device provides 3 different operation modes and the wireless radio of device can act as AP/Client/WDS. The operation mode is about the

communication mechanism between the wired Ethernet NIC and wireless NIC, the following is the types of operation mode.

Router

The wired Ethernet (WAN) port is used to connect with ADSL/Cable modem and the wireless NIC is used for your private WLAN. The NAT is existed between the 2 NIC and all the wireless clients share the same public IP address through the WAN port to ISP. The default IP configuration for WAN port is static IP. You can access the web server of device through the default WAN IP address 172.1.1.1 and modify the setting base on your ISP requirement.

Bridge

The wired Ethernet and wireless NIC are bridged together. Once the mode is selected, all the WAN related functions will be disabled.

WISP (Wireless ISP)

This mode can let you access the AP of your wireless ISP and share the same public IP address from your ISP to the PCs connecting with the wired Ethernet port of the device. To use this mode, first you must set the wireless radio to be client mode and connect to the AP of your ISP then you can configure the WAN IP configuration to meet your ISP requirement.

The wireless radio of the device acts as the following roles.

AP (Access Point)

The wireless radio of device serves as communications “hub” for wireless clients and provides a connection to a wired LAN.

AP Client

This mode provides the capability to connect with the other AP using infrastructure/Ad-hoc networking types. With bridge operation mode, you can directly connect the wired Ethernet port to your PC and the device becomes a wireless adapter. And with WISP operation mode, you can connect the wired Ethernet port to a hub/switch and all the PCs connecting with hub/switch can share the same public IP address from your ISP.

WDS (Wireless Distribution System)

This mode serves as a wireless repeater; the device forwards the packets to another AP with WDS function. When this mode is selected, all the wireless clients can’t survey and connect to the device. The device only allows the

WDS connection.

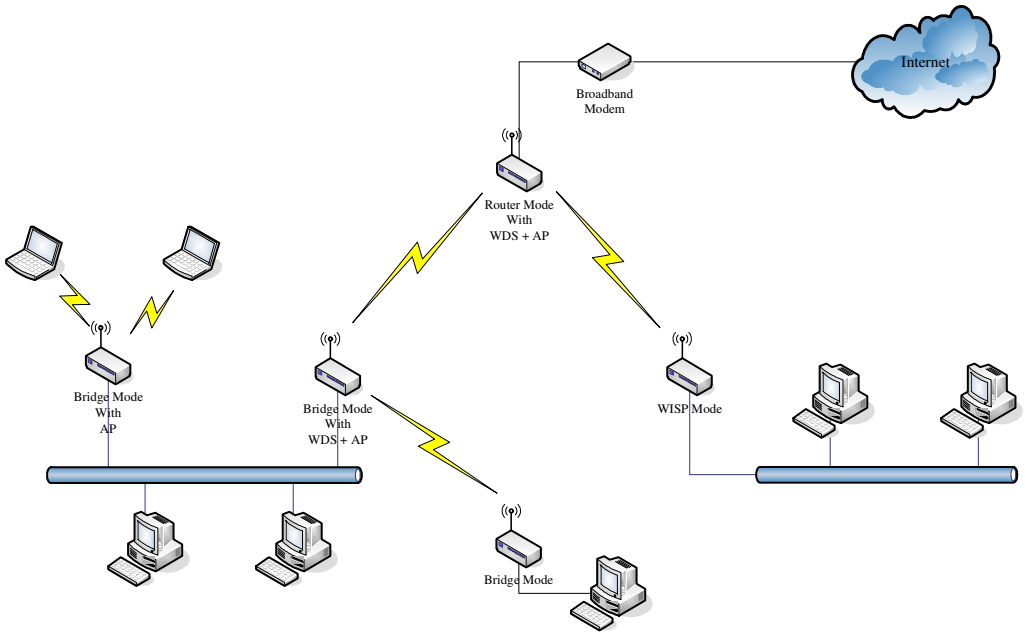
WDS+AP

This mode combines WDS plus AP modes, it not only allows WDS connections but also the wireless clients can survey and connect to the device.

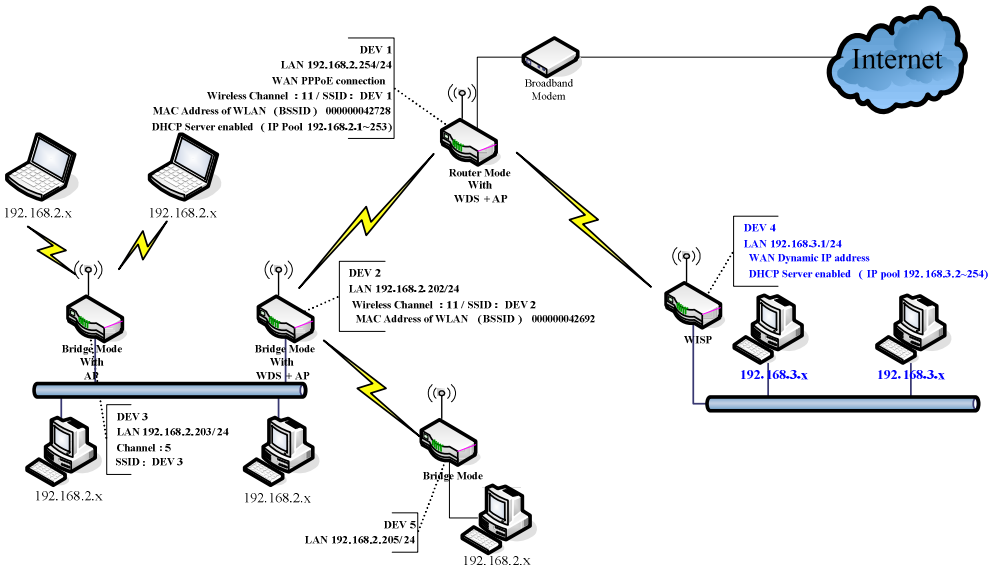
The following table shows the supporting combination of operation and wireless radio modes.

	Bridge	*Router*	*WISP*
AP	V	V	X
WDS	V	V	X
Client	V	X	V
AP+WDS	V	V	X

Hereafter are some topologies of network application for your reference.



Examples of Configuration



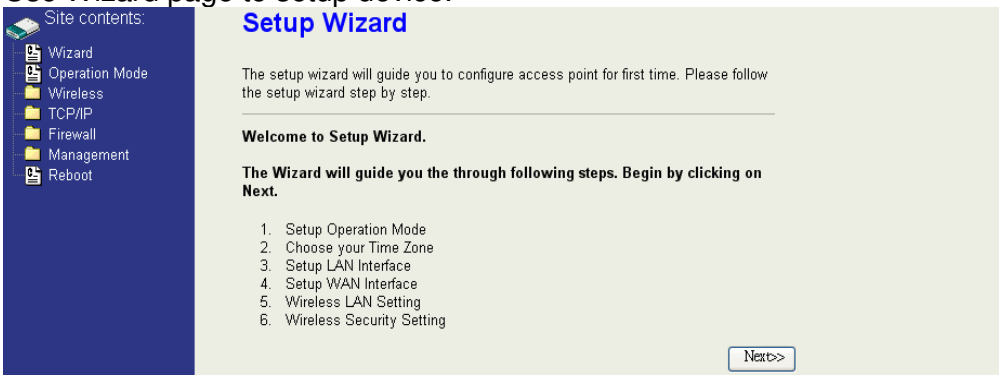
This example demonstrates how to set up a network with different device configurations. There are 2 DHCP servers (DEV1/DEV4) in the network to control the IP configuration of 2 domains (192.168.2.x/192.168.3.x). Once the setting is done, all the PCs can visit Internet through DEV1.

We assume all the devices keep the factory default setting. To make sure that user can continuing press the rest button for more than 5 seconds to restore the factory default setting.

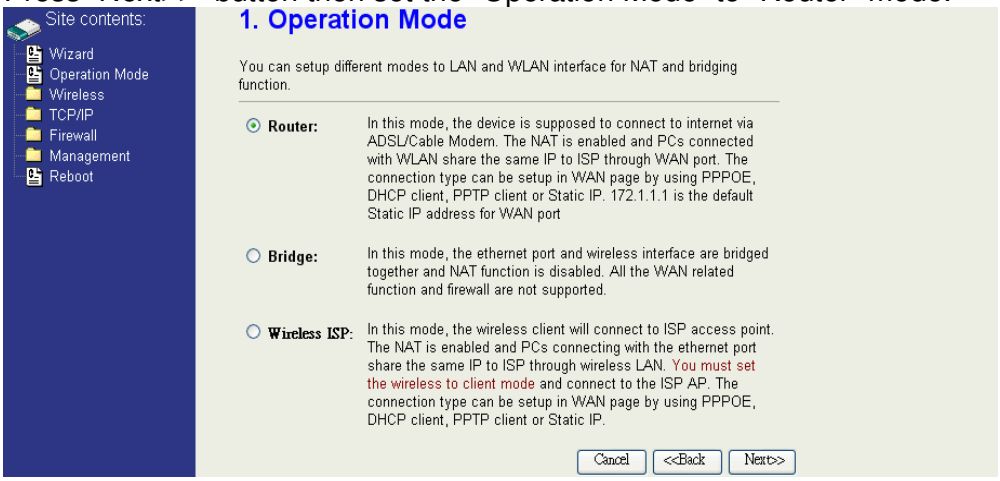
The following descriptions show the steps to configure DEV1 to DEV5.

Configure DEV1:

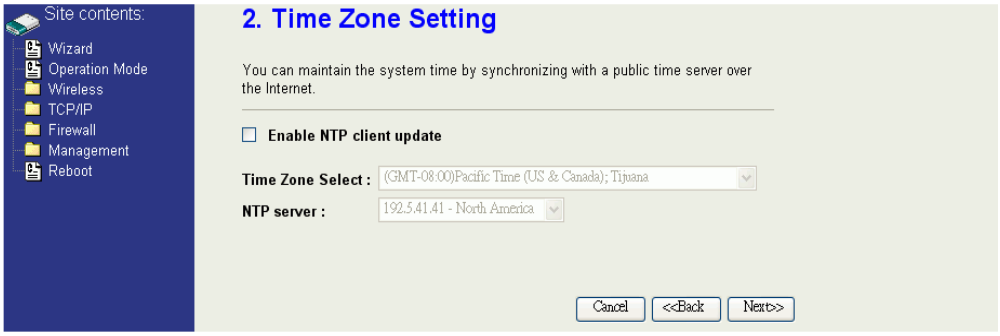
1. Connect the ADSL modem to Ethernet port of device using Ethernet cable.
2. Access the web server (http://192.168.2.254) of device from the wireless station.
3. Use Wizard page to setup device.


Site contents:
Wizard
Operation Mode
Wireless
TCP/IP
Firewall
Management
Reboot
Setup Wizard
The setup wizard will guide you to configure access point for first time. Please follow the setup wizard step by step.
Welcome to Setup Wizard.
The Wizard will guide you the through following steps. Begin by clicking on Next.
1. Setup Operation Mode
2. Choose your Time Zone
3. Setup LAN Interface
4. Setup WAN Interface
5. Wireless LAN Setting
6. Wireless Security Setting
Next>>

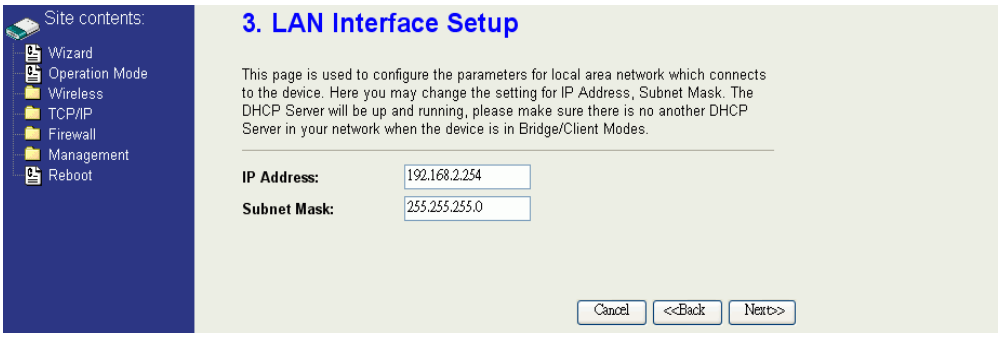
4. Press “Next>>” button then set the “Operation Mode” to “Router” mode.


Site contents:
Wizard
Operation Mode
Wireless
TCP/IP
Firewall
Management
Reboot
1. Operation Mode
You can setup different modes to LAN and WLAN interface for NAT and bridging function.
Router: In this mode, the device is supposed to connect to internet via ADSL/Cable Modem. The NAT is enabled and PCs connected with WLAN share the same IP to ISP through WAN port. The connection type can be setup in WAN page by using PPPOE, DHCP client, PPTP client or Static IP. 172.1.1.1 is the default Static IP address for WAN port
Bridge: In this mode, the ethernet port and wireless interface are bridged together and NAT function is disabled. All the WAN related function and firewall are not supported.
Wireless ISP: In this mode, the wireless client will connect to ISP access point. The NAT is enabled and PCs connecting with the ethernet port share the same IP to ISP through wireless LAN. You must set the wireless to client mode and connect to the ISP AP. The connection type can be setup in WAN page by using PPPOE, DHCP client, PPTP client or Static IP.
Cancel
<<Back
Next>>

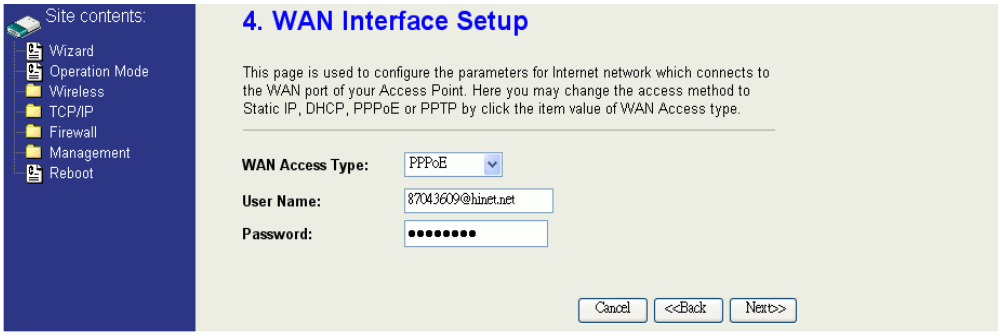
5. Press “Next>>” button then disable “Time Zone” function.



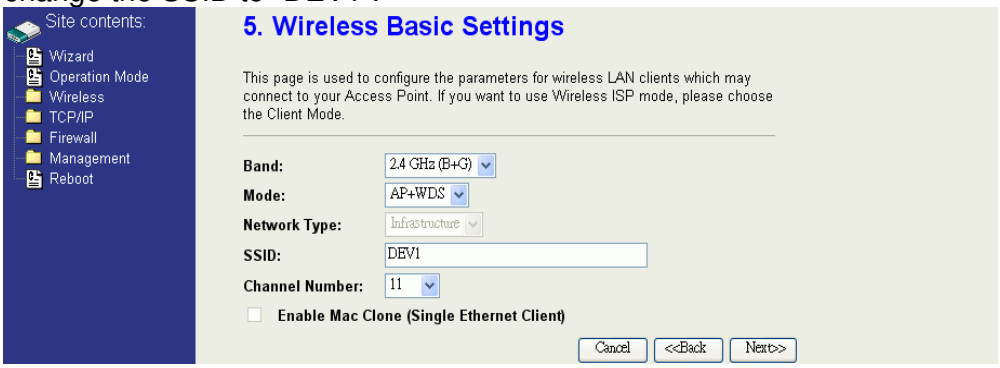
6. Press “Next>>” button then set the IP address of LAN interface.


Site contents:
Wizard
Operation Mode
Wireless
TCP/IP
Firewall
Management
Reboot
3. LAN Interface Setup
This page is used to configure the parameters for local area network which connects to the device. Here you may change the setting for IP Address, Subnet Mask. The DHCP Server will be up and running, please make sure there is no another DHCP Server in your network when the device is in Bridge/Client Modes.
IP Address: 192.168.2.254
Subnet Mask: 255.255.255.0
Cancel
<<Back
Next>>

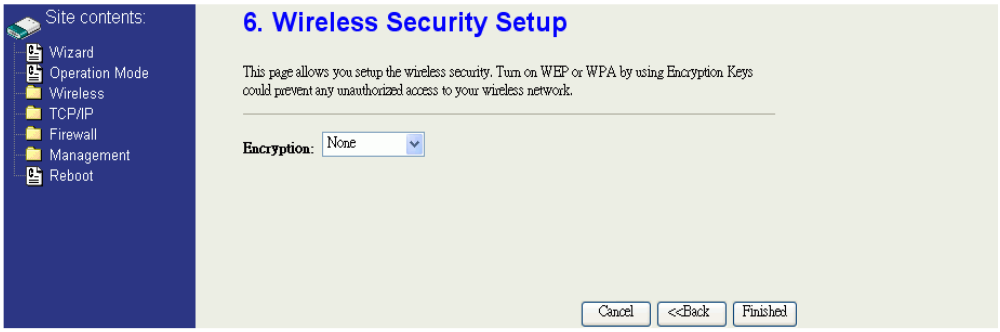
7. Press “Next>>” button then select the “PPPoE” for “WAN Access Type” and fill in the “User Name” and “Password” fields.


Site contents:
Wizard
Operation Mode
Wireless
TCP/IP
Firewall
Management
Reboot
4. WAN Interface Setup
This page is used to configure the parameters for Internet network which connects to the WAN port of your Access Point. Here you may change the access method to Static IP, DHCP, PPPoE or PPTP by click the item value of WAN Access type.
WAN Access Type: PPPoE
User Name: 87043609@hinet.net
Password: ••••••••
Cancel
<<Back
Next>>

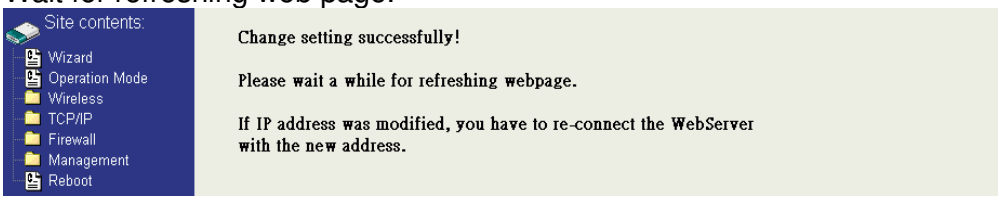
8. Press “Next>>” button then select the “AP+WDS” for “mode” and change the SSID to “DEV1”.



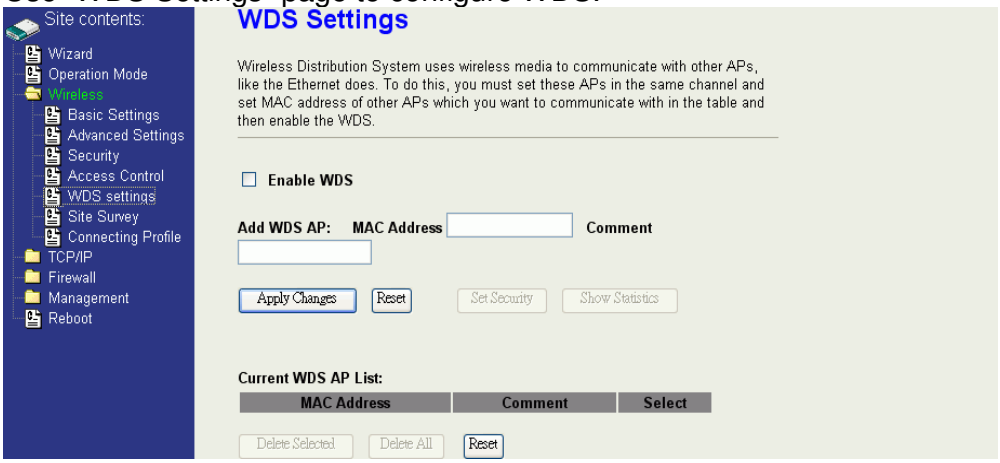
9. Press “Next>>” button then select “None” for “Encryption” then press “Finished” button.



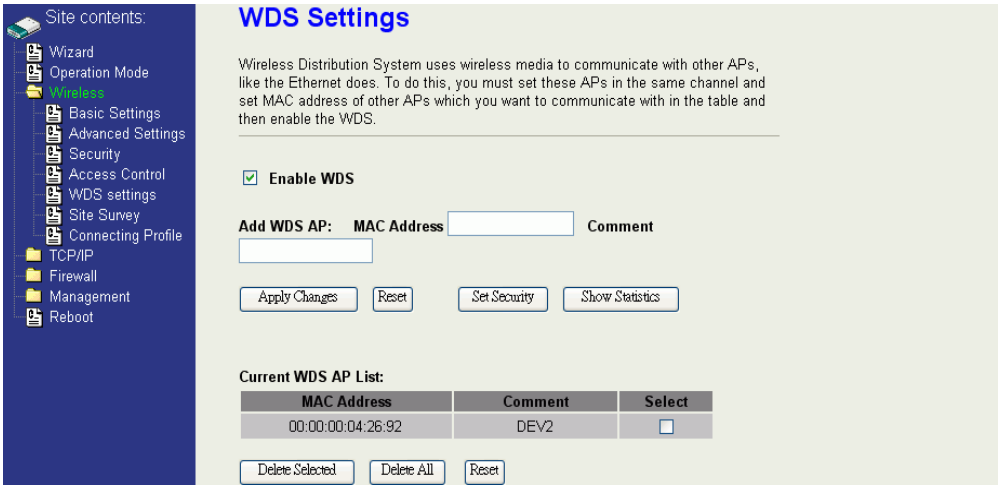
10. Wait for refreshing web page.



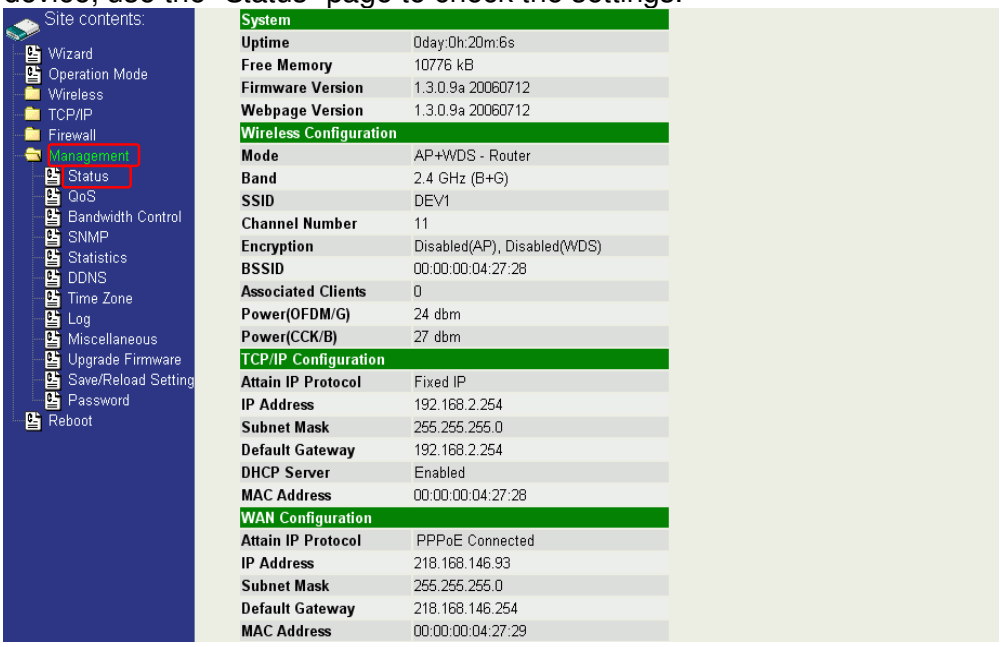
11. Use “WDS Settings” page to configure WDS.



12. Enable WDS function and add the BSSID of DEV2 to “Current WDS AP List”.



13. Since we access the device by wireless connection, it may temporarily disconnect when applying the WDS setting. After re-connecting to the device, use the “Status” page to check the settings.



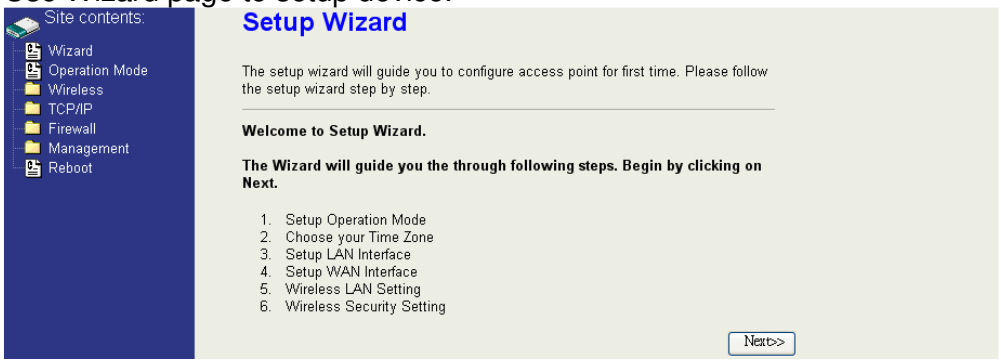
Configure DEV2:

1. Access the web server (http://192.168.2.254) of device from the Ethernet port.

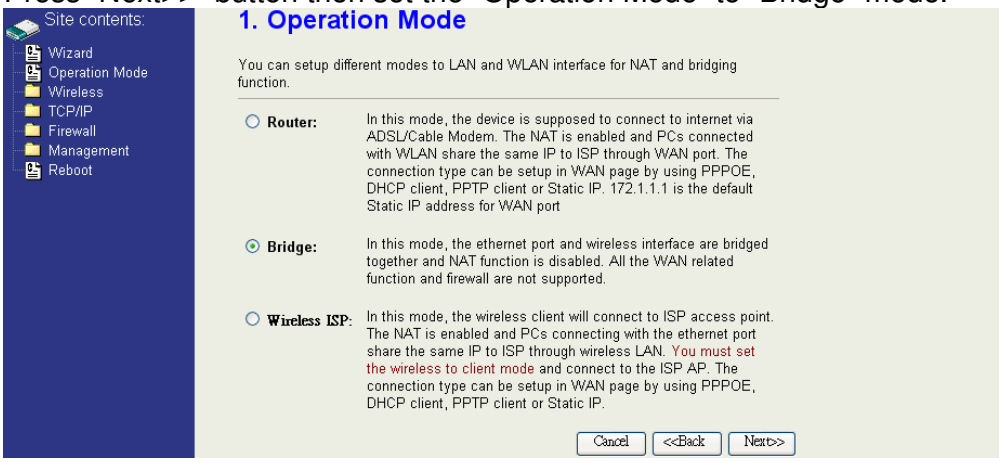
Caution

If you configure multiple devices in the same PC, since the devices have the same default IP address but different MAC addresses, it may cause you not able to access the web server of device. If the situation happens, please try to clean the ARP table of your PC by DOS command "arp –d" then you can access the web server of device using the default IP address.

2. Use Wizard page to setup device.


Site contents:
Wizard
Operation Mode
Wireless
TCP/IP
Firewall
Management
Reboot
Setup Wizard
The setup wizard will guide you to configure access point for first time. Please follow the setup wizard step by step.
Welcome to Setup Wizard.
The Wizard will guide you the through following steps. Begin by clicking on Next.
1. Setup Operation Mode
2. Choose your Time Zone
3. Setup LAN Interface
4. Setup WAN Interface
5. Wireless LAN Setting
6. Wireless Security Setting
Next>>

3. Press "Next>>" button then set the "Operation Mode" to "Bridge" mode.


Site contents:
Wizard
Operation Mode
Wireless
TCP/IP
Firewall
Management
Reboot
1. Operation Mode
You can setup different modes to LAN and WLAN interface for NAT and bridging function.
Router: In this mode, the device is supposed to connect to internet via ADSL/Cable Modem. The NAT is enabled and PCs connected with WLAN share the same IP to ISP through WAN port. The connection type can be setup in WAN page by using PPPOE, DHCP client, PPTP client or Static IP. 172.1.1.1 is the default Static IP address for WAN port
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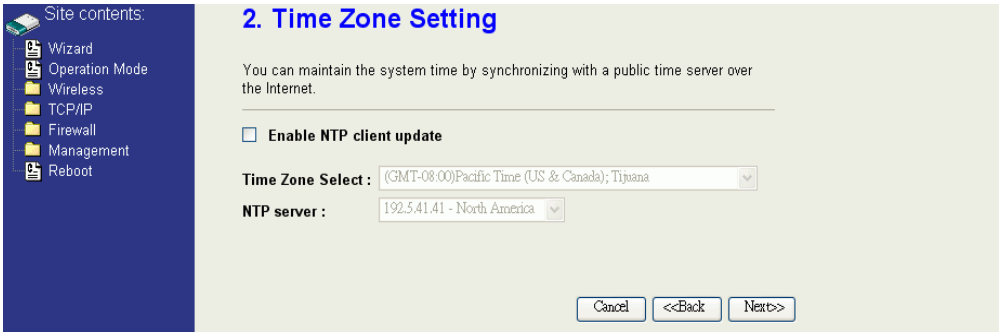
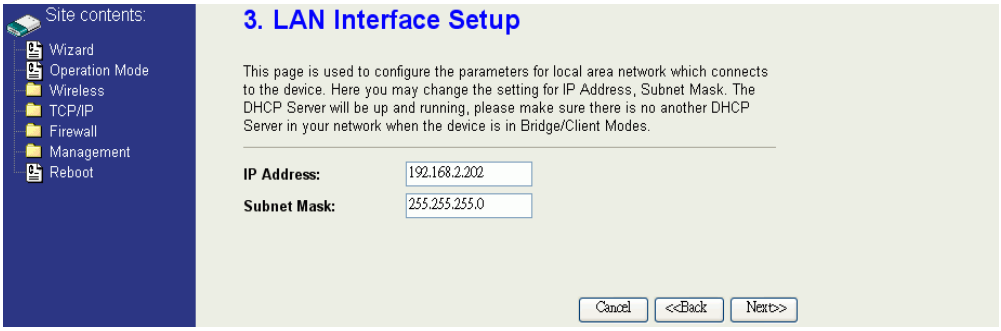
Wireless ISP: In this mode, the wireless client will connect to ISP access point. The NAT is enabled and PCs connecting with the ethernet port share the same IP to ISP through wireless LAN. You must set the wireless to client mode and connect to the ISP AP. The connection type can be setup in WAN page by using PPPOE, DHCP client, PPTP client or Static IP.
Cancel
<<Back
Next>>

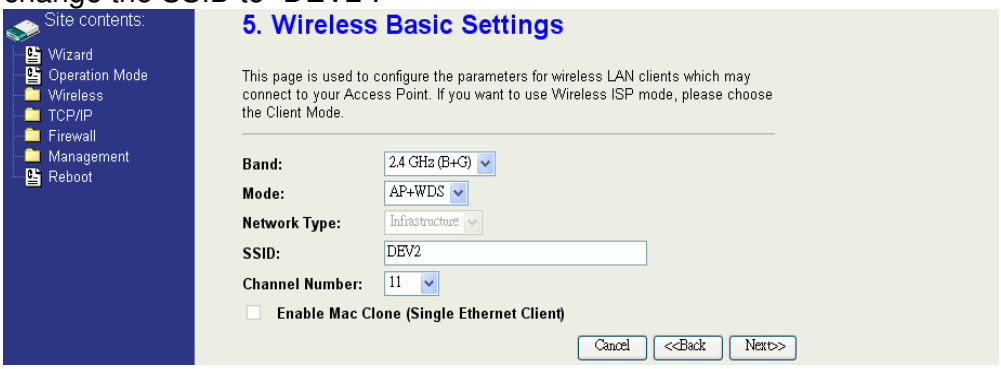
4. Press "Next>>" button then disable "Time Zone" function.



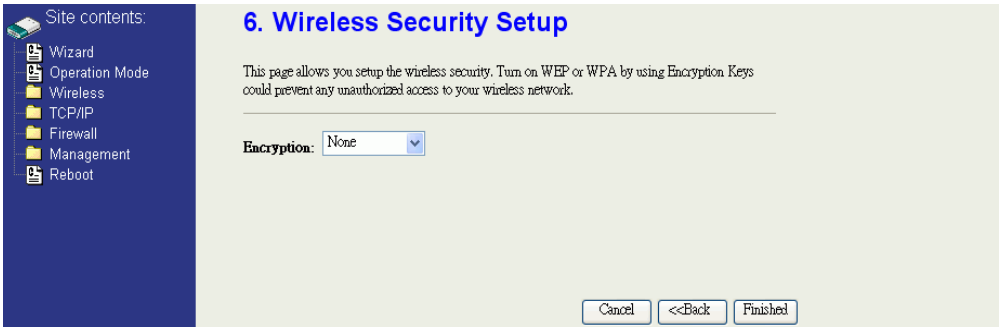
5. Press “Next>>” button then set the IP address of LAN interface.


Site contents:
Wizard
Operation Mode
Wireless
TCP/IP
Firewall
Management
Reboot
3. LAN Interface Setup
This page is used to configure the parameters for local area network which connects to the device. Here you may change the setting for IP Address, Subnet Mask. The DHCP Server will be up and running, please make sure there is no another DHCP Server in your network when the device is in Bridge/Client Modes.
IP Address:
192.168.2.202
Subnet Mask:
255.255.255.0
Cancel
<<Back
Next>>

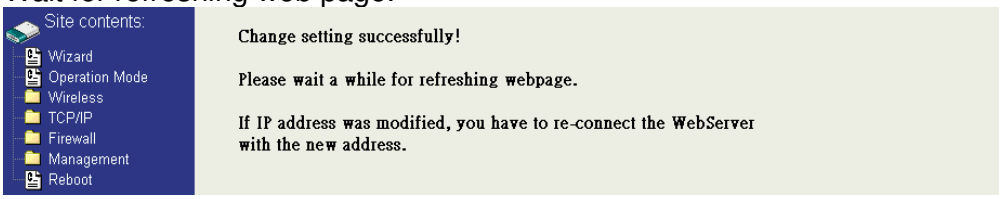
6. Press “Next>>” button then select the “AP+WDS” for “mode” and change the SSID to “DEV2”.



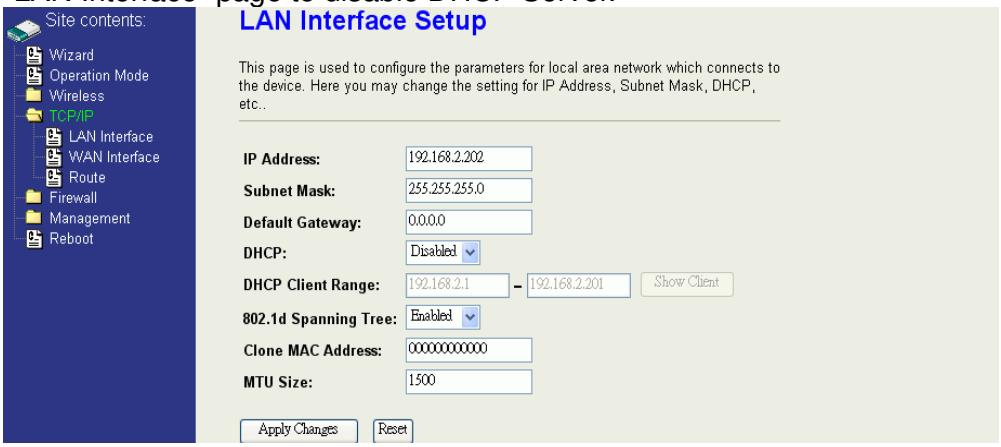
7. Press “Next>>” button then select “None” for “Encryption” then press “Finished” button.



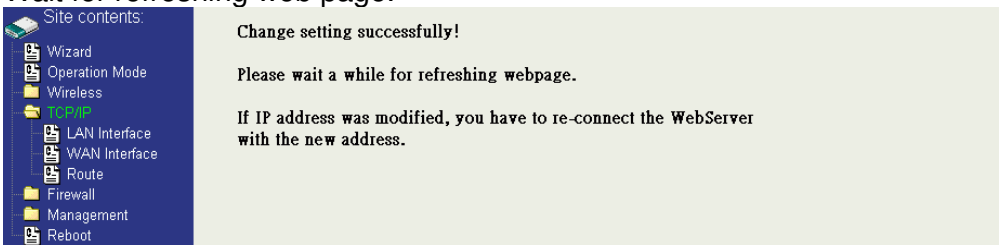
8. Wait for refreshing web page.



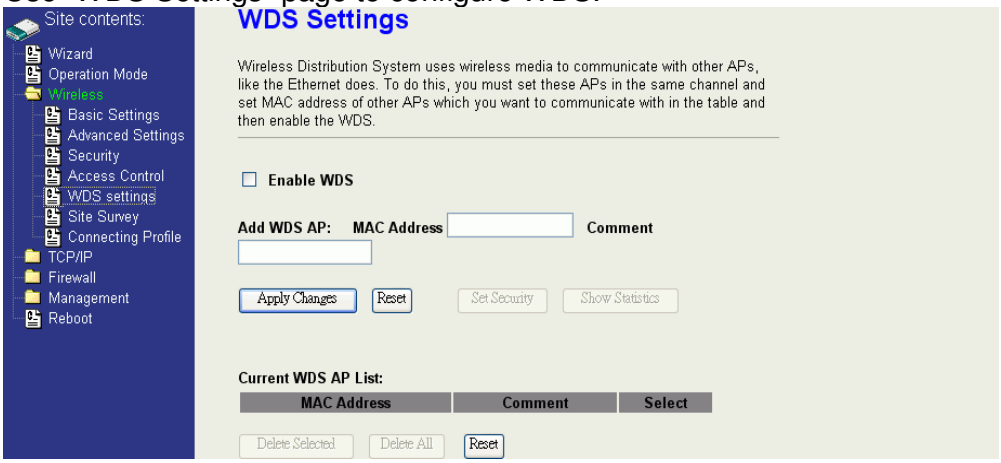
9. Access the web server by new IP address “192.168.2.202” then use “LAN Interface” page to disable DHCP Server.



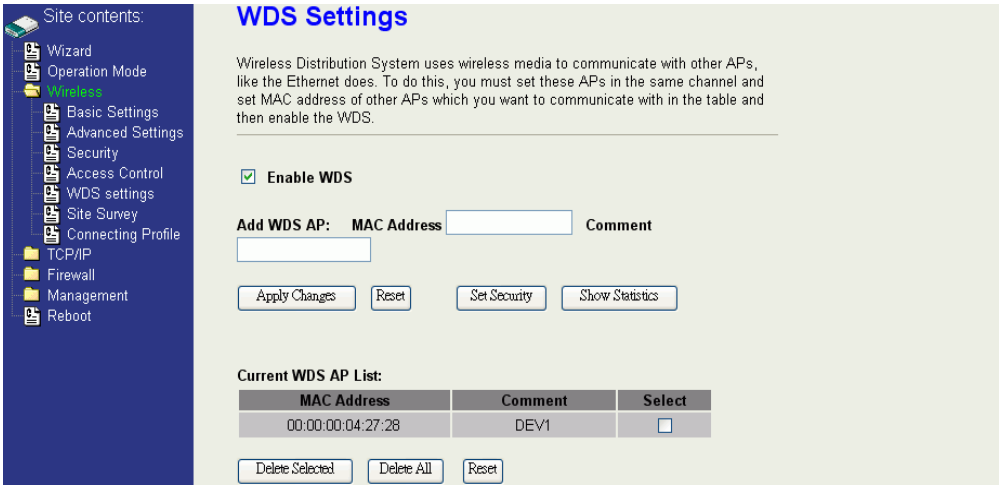
10. Wait for refreshing web page.



11. Use “WDS Settings” page to configure WDS.



12. Enable WDS function and add the BSSID of DEV1 to “Current WDS AP List”.



13. Use the “Status” page to check the settings.

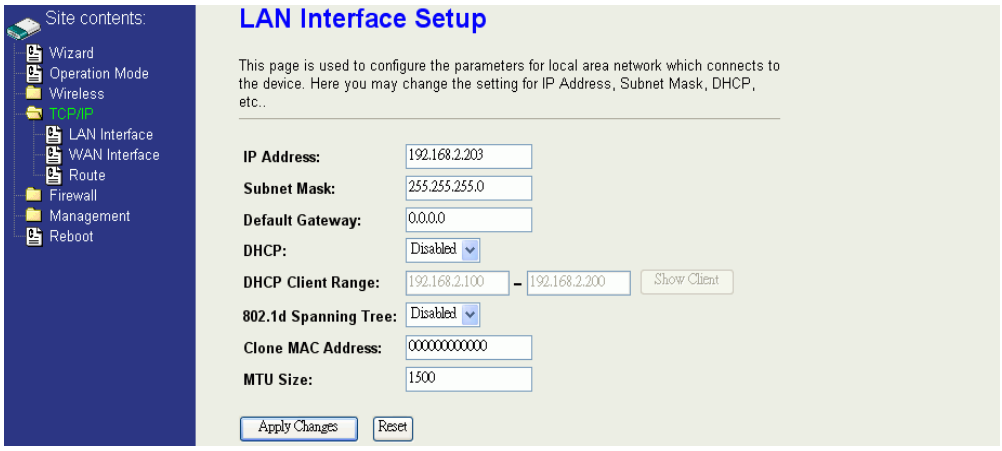
Configure DEV3:

1. Access the web server (http://192.168.2.254) of device from the Ethernet port.

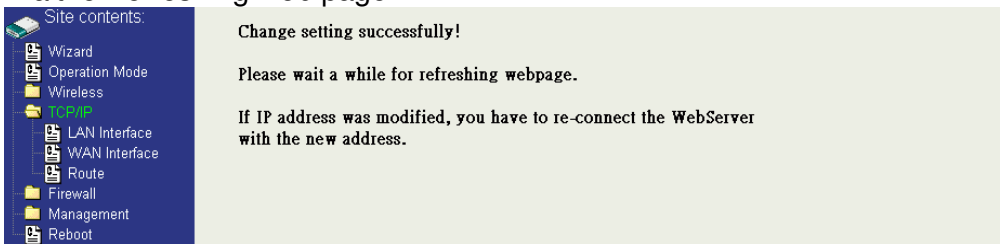
Caution

If you configure multiple devices in the same PC, since the devices have the same default IP address but different MAC addresses, it may cause you not able to access the web server of device. If the situation happens, please try to clean the ARP table of your PC by DOS command “arp –d” then you can access the web server of device using the default IP address.

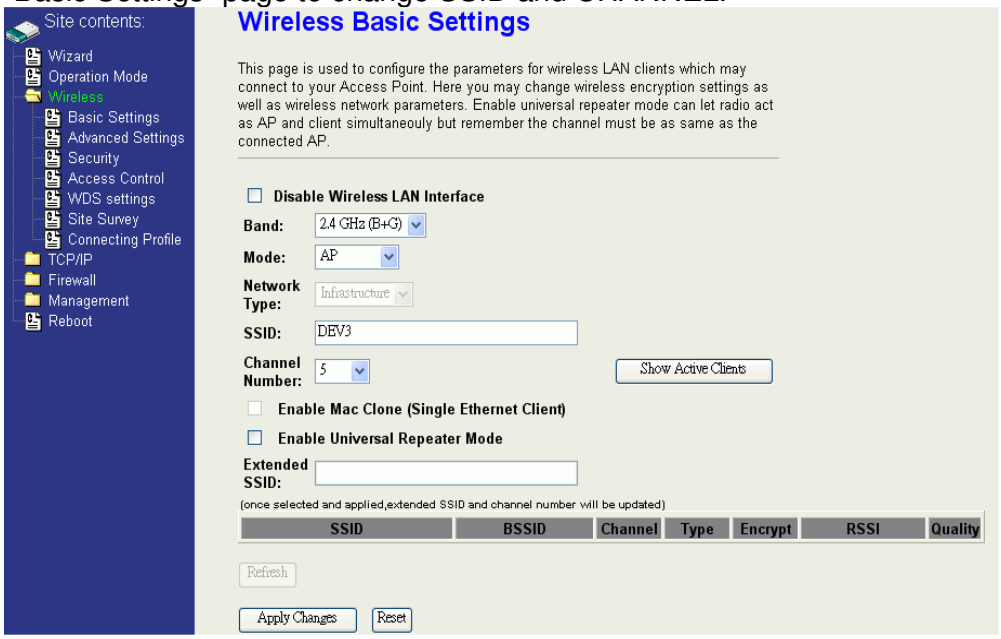
2. Use “LAN Interface” page to set the IP address of LAN interface and disable DHCP server.



3. Wait for refreshing web page.



4. Access the web server by new IP address “192.168.2.203” then use “Basic Settings” page to change SSID and CHANNEL.


Site contents:
Wizard
Operation Mode
Wireless
Basic Settings
Advanced Settings
Security
Access Control
WDS settings
Site Survey
Connecting Profile
TCP/IP
Firewall
Management
Reboot
Wireless Basic Settings
This page is used to configure the parameters for wireless LAN clients which may connect to your Access Point. Here you may change wireless encryption settings as well as wireless network parameters. Enable universal repeater mode can let radio act as AP and client simultaneouly but remember the channel must be as same as the connected AP.
Disable Wireless LAN Interface
Band: 2.4 GHz (B+G)
Mode: AP
Network Type: Infrastructure
SSID: DEV3
Channel Number: 5
Show Active Clients
Enable Mac Clone (Single Ethernet Client)
Enable Universal Repeater Mode
Extended SSID:
(once selected and applied,extended SSID and channel number will be updated)
SSID BSSID Channel Type Encrypt RSSI Quality
Refresh
Apply Changes
Reset

5. Use the “Status” page to check the settings.

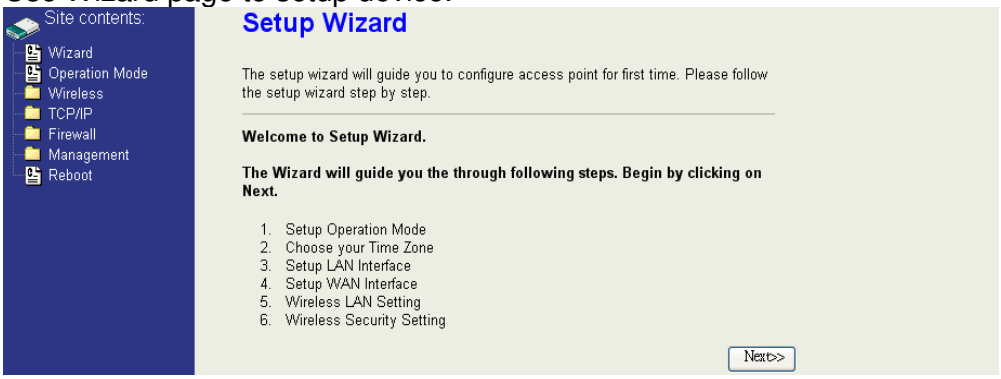
Configure DEV4:

1. Access the web server (http://192.168.2.254) of device from the Ethernet port.

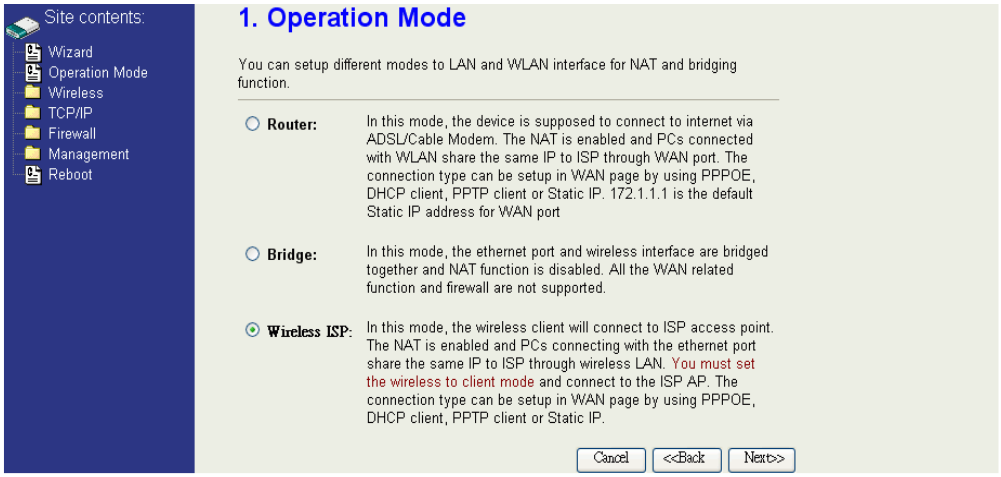
Caution

If you configure multiple devices in the same PC, since the devices have the same default IP address but different MAC addresses, it may cause you unable to access the web server of device. If the situation happens, please try to clean the ARP table of your PC by DOS command “arp –d” then you can access the web server of device using the default IP address.

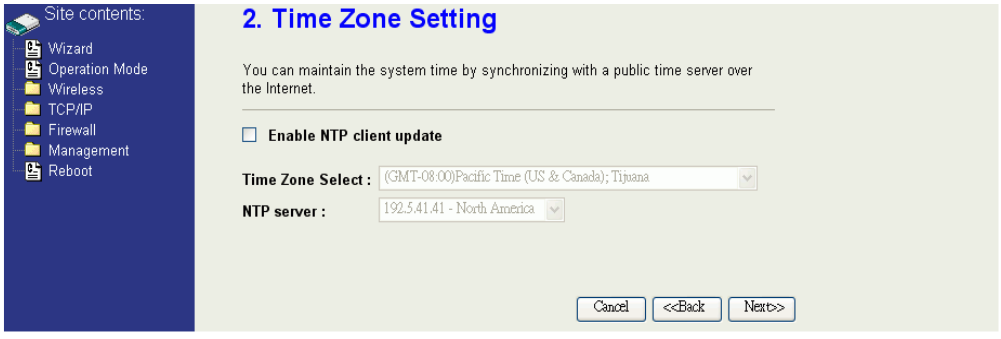
2. Use Wizard page to setup device.


Site contents:
Wizard
Operation Mode
Wireless
TCP/IP
Firewall
Management
Reboot
Setup Wizard
The setup wizard will guide you to configure access point for first time. Please follow the setup wizard step by step.
Welcome to Setup Wizard.
The Wizard will guide you the through following steps. Begin by clicking on Next.
1. Setup Operation Mode
2. Choose your Time Zone
3. Setup LAN Interface
4. Setup WAN Interface
5. Wireless LAN Setting
6. Wireless Security Setting
Next>>

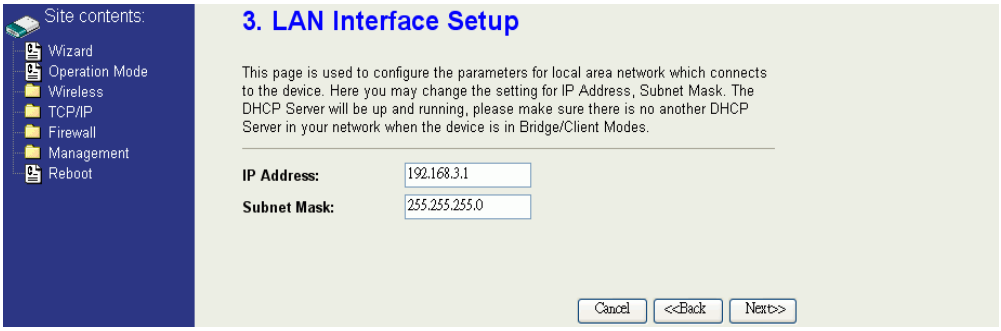
3. Press “Next>>” button then set the “Operation Mode” to “Wireless ISP” mode.


Site contents:
Wizard
Operation Mode
Wireless
TCP/IP
Firewall
Management
Reboot
1. Operation Mode
You can setup different modes to LAN and WLAN interface for NAT and bridging function.
Router: In this mode, the device is supposed to connect to internet via ADSL/Cable Modem. The NAT is enabled and PCs connected with WLAN share the same IP to ISP through WAN port. The connection type can be setup in WAN page by using PPPOE, DHCP client, PPTP client or Static IP. 172.1.1.1 is the default Static IP address for WAN port
Bridge: In this mode, the ethernet port and wireless interface are bridged together and NAT function is disabled. All the WAN related function and firewall are not supported.
Wireless ISP: In this mode, the wireless client will connect to ISP access point. The NAT is enabled and PCs connecting with the ethernet port share the same IP to ISP through wireless LAN. You must set the wireless to client mode and connect to the ISP AP. The connection type can be setup in WAN page by using PPPOE, DHCP client, PPTP client or Static IP.
Cancel
<<Back
Next>>

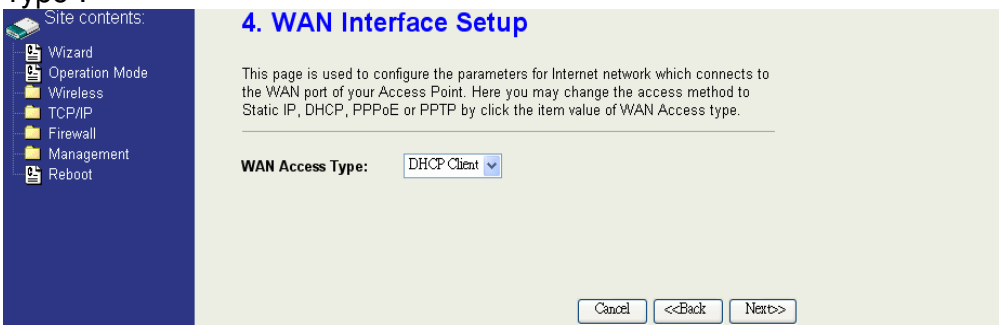
4. Press “Next>>” button then disable “Time Zone” function.



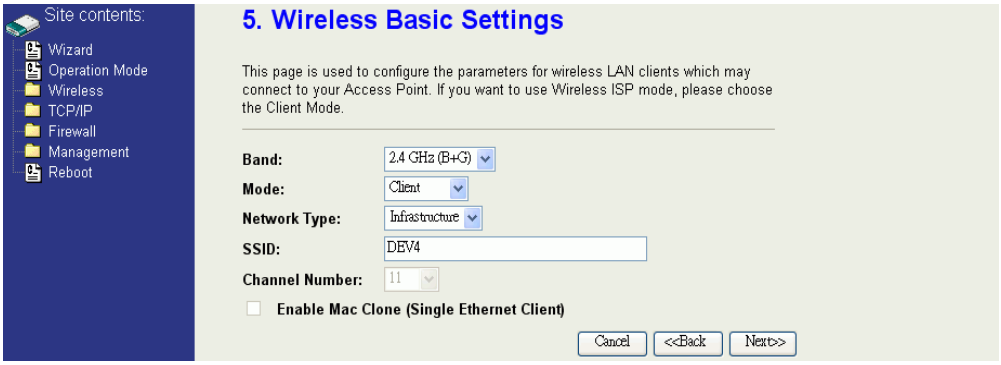
5. Press “Next>>” button then set the IP address of LAN interface.


Site contents:
Wizard
Operation Mode
Wireless
TCP/IP
Firewall
Management
Reboot
3. LAN Interface Setup
This page is used to configure the parameters for local area network which connects to the device. Here you may change the setting for IP Address, Subnet Mask. The DHCP Server will be up and running, please make sure there is no another DHCP Server in your network when the device is in Bridge/Client Modes.
IP Address:
192.168.3.1
Subnet Mask:
255.255.255.0
Cancel
<<Back
Next>>

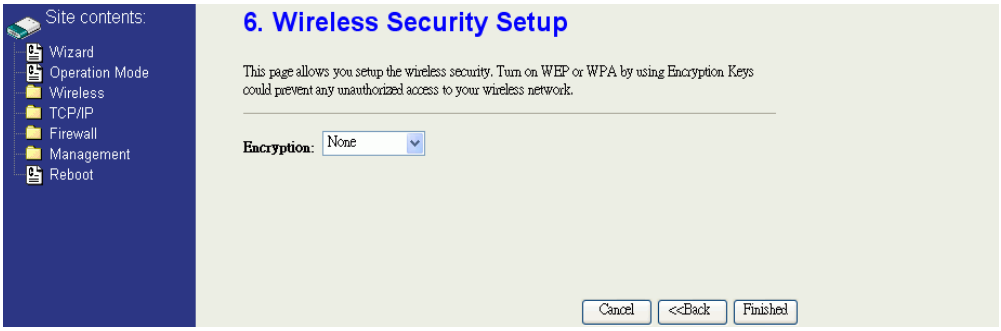
6. Press “Next>>” button then select the “DHCP Client” for “WAN Access Type”.


Site contents:
Wizard
Operation Mode
Wireless
TCP/IP
Firewall
Management
Reboot
4. WAN Interface Setup
This page is used to configure the parameters for Internet network which connects to the WAN port of your Access Point. Here you may change the access method to Static IP, DHCP, PPPoE or PPTP by click the item value of WAN Access type.
WAN Access Type:
DHCP Client
Cancel
<<Back
Next>>

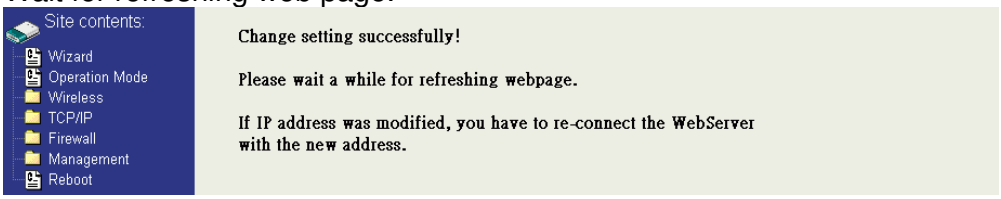
7. Press “Next>>” button then select the “Client” for “mode” and change the SSID to “DEV4”.



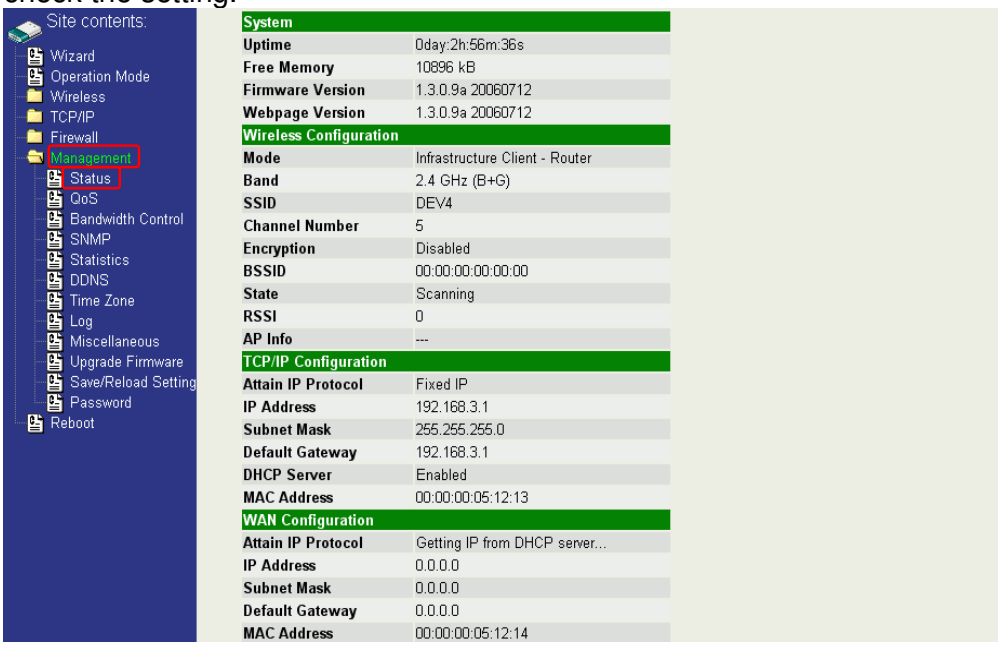
8. Press “Next>>” button then select “None” for “Encryption” then press “Finished” button.



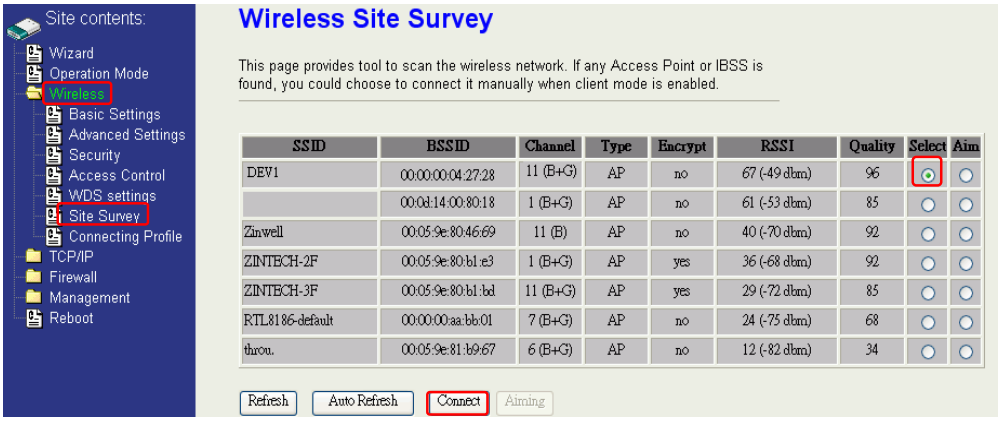
9. Wait for refreshing web page.



10. Change the IP address of your PC to 192.168.3.x then access the web server by the new IP address “192.168.3.1” and use “Status” page check the setting.



11. If the “State” of “Wireless Configuration” is not “Connected” or you want to refresh the “RSSI “, please use “Site Survey” page to re-connect a AP.


Site contents:
Wizard
Operation Mode
Wireless
Basic Settings
Advanced Settings
Security
Access Control
WDS settings
Site Survey
Connecting Profile
TCP/IP
Firewall
Management
Reboot
Wireless Site Survey
This page provides tool to scan the wireless network. If any Access Point or IBSS is found, you could choose to connect it manually when client mode is enabled.
SSID BSSID Channel Type Encrypt RSSI Quality Select Aim
DEV1 00:00:00:04:27:28 11 (B+G) AP no 67 (-49 dbm) 96
00:0d:14:00:80:18 1 (B+G) AP no 61 (-53 dbm) 85
Zinwell 00:05:9e:80:46:69 11 (B) AP no 40 (-70 dbm) 92
ZINTECH-2F 00:05:9e:80:b1:e3 1 (B+G) AP yes 36 (-68 dbm) 92
ZINTECH-3F 00:05:9e:80:b1:bd 11 (B+G) AP yes 29 (-72 dbm) 85
RTL8186-default 00:00:00:aa:bb:01 7 (B+G) AP no 24 (-75 dbm) 68
throu. 00:05:9e:81:b9:67 6 (B+G) AP no 12 (-82 dbm) 34
Refresh
Auto Refresh
Connect
Aiming

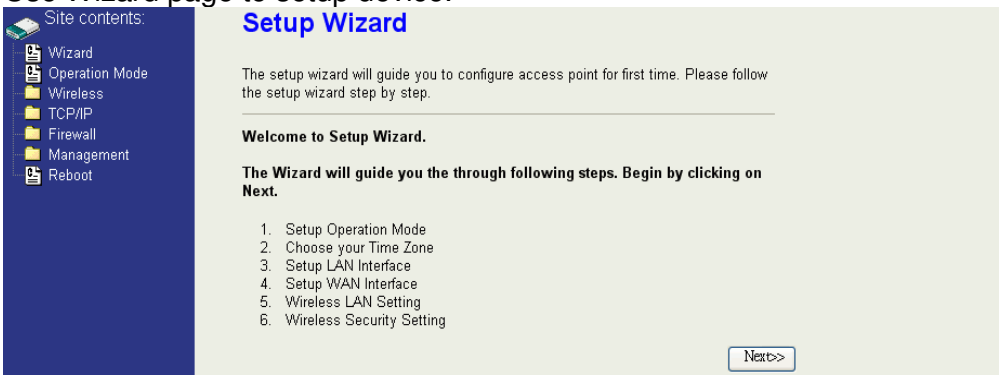
Configure DEV5:

1. Access the web server (http://192.168.2.254) of device from the Ethernet port.

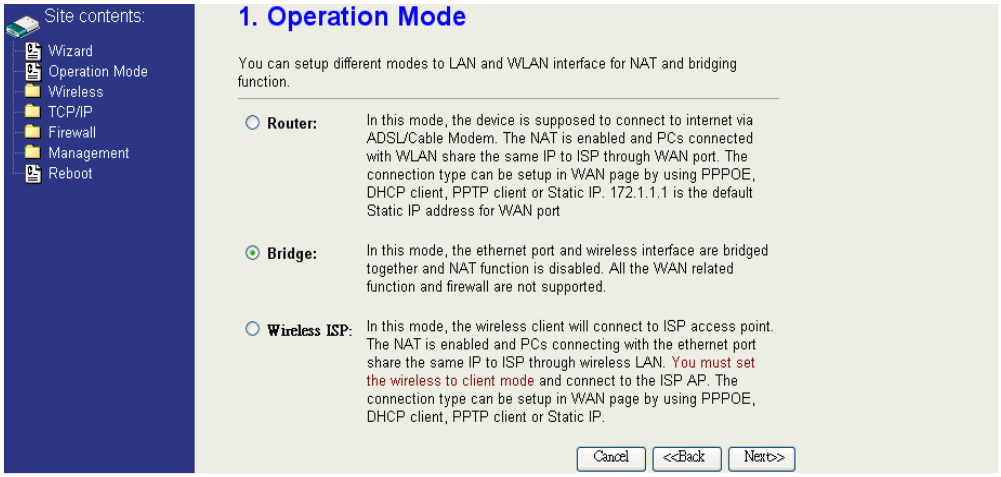
Caution

If you configure multiple devices in the same PC, since the devices have the same default IP address but different MAC addresses, it may cause you unable to access the web server of device. If the situation happens, please try to clean the ARP table of your PC by DOS command “arp –d” then you can access the web server of device using the default IP address.

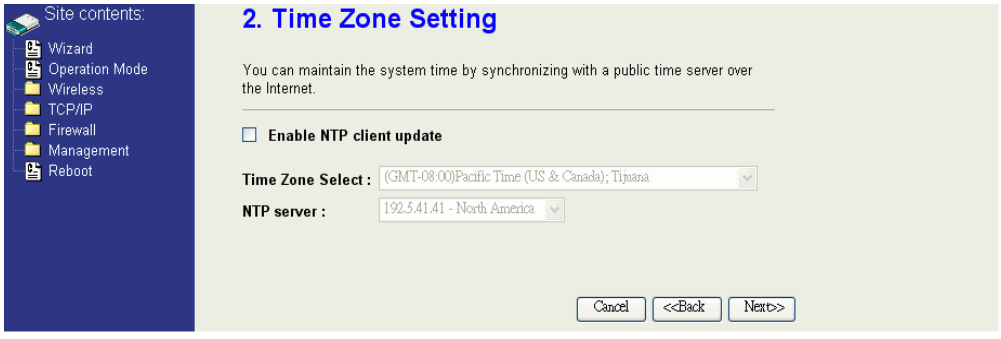
2. Use Wizard page to setup device.


Site contents:
Wizard
Operation Mode
Wireless
TCP/IP
Firewall
Management
Reboot
Setup Wizard
The setup wizard will guide you to configure access point for first time. Please follow the setup wizard step by step.
Welcome to Setup Wizard.
The Wizard will guide you the through following steps. Begin by clicking on Next.
1. Setup Operation Mode
2. Choose your Time Zone
3. Setup LAN Interface
4. Setup WAN Interface
5. Wireless LAN Setting
6. Wireless Security Setting
Next>>

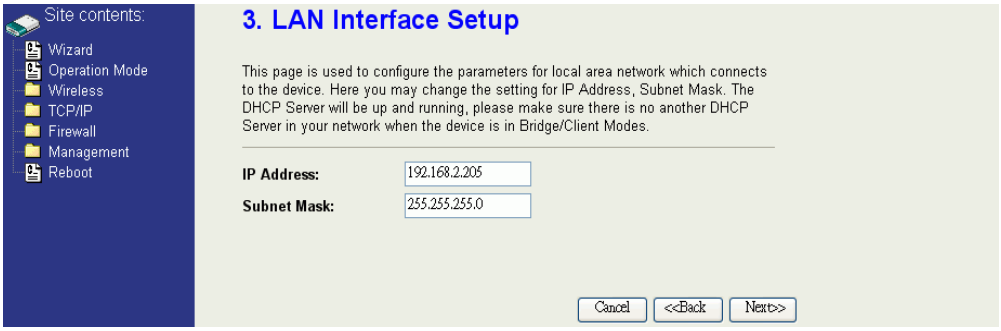
3. Press “Next>>” button then set the “Operation Mode” to “Wireless ISP” mode.


Site contents:
Wizard
Operation Mode
Wireless
TCP/IP
Firewall
Management
Reboot
1. Operation Mode
You can setup different modes to LAN and WLAN interface for NAT and bridging function.
Router: In this mode, the device is supposed to connect to internet via ADSL/Cable Modem. The NAT is enabled and PCs connected with WLAN share the same IP to ISP through WAN port. The connection type can be setup in WAN page by using PPPOE, DHCP client, PPTP client or Static IP. 172.1.1.1 is the default Static IP address for WAN port
Bridge: In this mode, the ethernet port and wireless interface are bridged together and NAT function is disabled. All the WAN related function and firewall are not supported.
Wireless ISP: In this mode, the wireless client will connect to ISP access point. The NAT is enabled and PCs connecting with the ethernet port share the same IP to ISP through wireless LAN. You must set the wireless to client mode and connect to the ISP AP. The connection type can be setup in WAN page by using PPPOE, DHCP client, PPTP client or Static IP.
Cancel
<<Back
Next>>

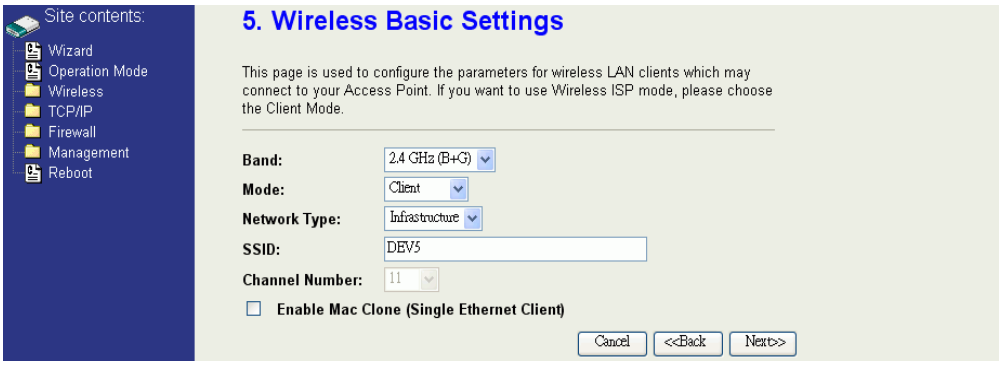
4. Press “Next>>” button then disable “Time Zone” function.



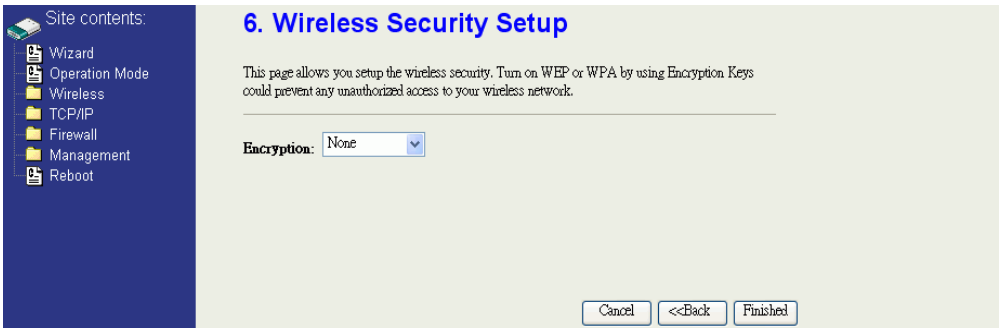
5. Press “Next>>” button then set the IP address of LAN interface.


Site contents:
Wizard
Operation Mode
Wireless
TCP/IP
Firewall
Management
Reboot
3. LAN Interface Setup
This page is used to configure the parameters for local area network which connects to the device. Here you may change the setting for IP Address, Subnet Mask. The DHCP Server will be up and running, please make sure there is no another DHCP Server in your network when the device is in Bridge/Client Modes.
IP Address:
192.168.2.205
Subnet Mask:
255.255.255.0
Cancel
<<Back
Next>>

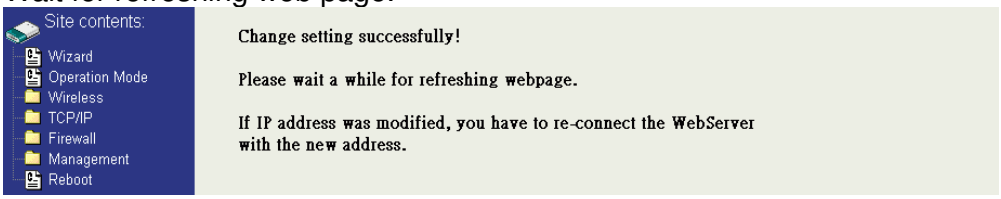
6. Press “Next>>” button then select the “Client” for “mode” and change the SSID to “DEV5”.



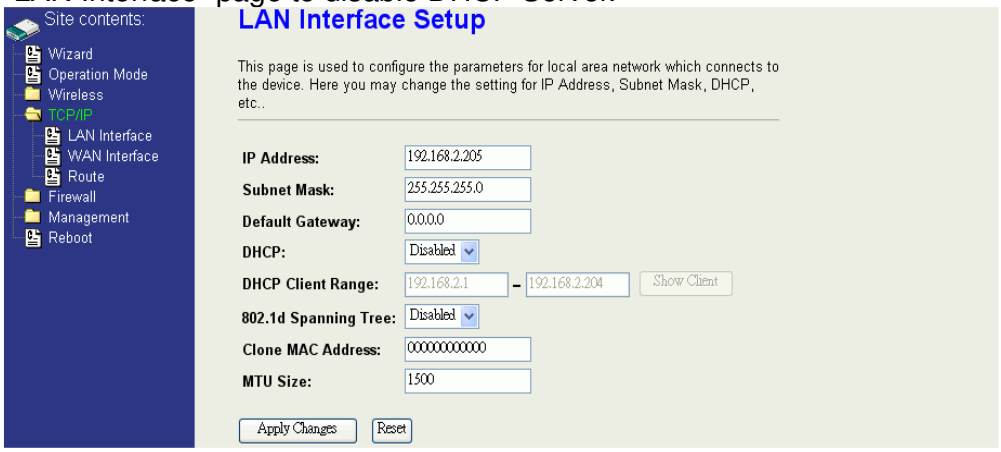
7. Press “Next>>” button then select “None” for “Encryption” then press “Finished” button.



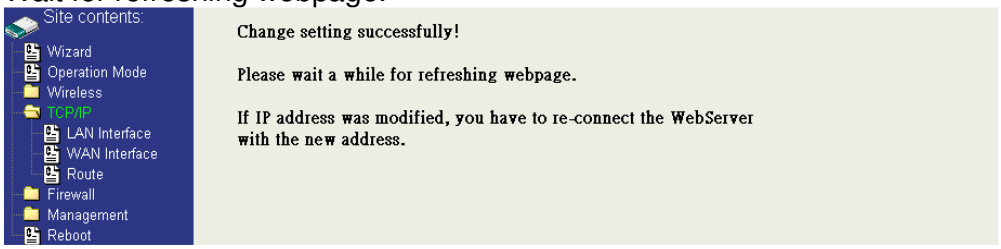
8. Wait for refreshing web page.



9. Access the web server by the new IP address “192.168.2.205” and use “LAN Interface” page to disable DHCP Server.

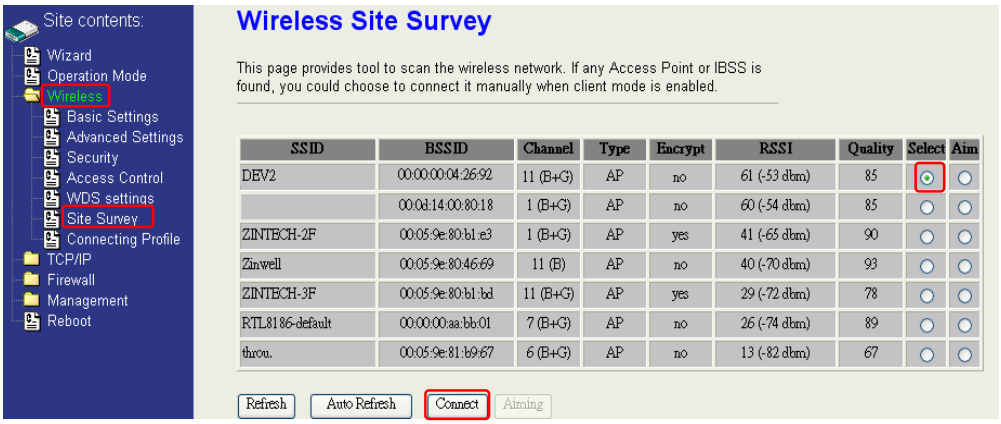


10. Wait for refreshing webpage.



11. Use “State” page to check setting.

12. If the “State” of “Wireless Configuration” is not “Connected” or you want to refresh the “RSSI “, please use “Site Survey” page to re-connect a AP.


Site contents:
Wizard
Operation Mode
Wireless
Basic Settings
Advanced Settings
Security
Access Control
WDS settings
Site Survey
Connecting Profile
TCP/IP
Firewall
Management
Reboot
Wireless Site Survey
This page provides tool to scan the wireless network. If any Access Point or IBSS is found, you could choose to connect it manually when client mode is enabled.
SSID BSSID Channel Type Encrypt RSSI Quality Select Aim
DEV2 00:00:00:04:26:92 11 (B+G) AP no 61 (-53 dbm) 85
00:0d:14:00:80:18 1 (B+G) AP no 60 (-54 dbm) 85
ZINTECH-2F 00:05:9e:80:b1:e3 1 (B+G) AP yes 41 (-65 dbm) 90
Zinwell 00:05:9e:80:46:69 11 (B) AP no 40 (-70 dbm) 93
ZINTECH-3F 00:05:9e:80:b1:bd 11 (B+G) AP yes 29 (-72 dbm) 78
RTL8186-default 00:00:00:aa:bb:01 7 (B+G) AP no 26 (-74 dbm) 89
throu. 00:05:9e:81:b9:67 6 (B+G) AP no 13 (-82 dbm) 67
Refresh
Auto Refresh
Connect
Aiming

Basic Settings

Disable Wireless LAN Interface

Disable the wireless interface of device

Band:

The device supports 2.4GHz(B), 2.4GHz(G) and 2.4GHz(B+G) mixed modes.

Mode:

The radio of device supports different modes as following:

1. AP

   The radio of device acts as an Access Point to serves all wireless clients to join a wireless local network.

2. Client

   Support Infrastructure and Ad-hoc network types to act as a wireless adapter.

3. WDS

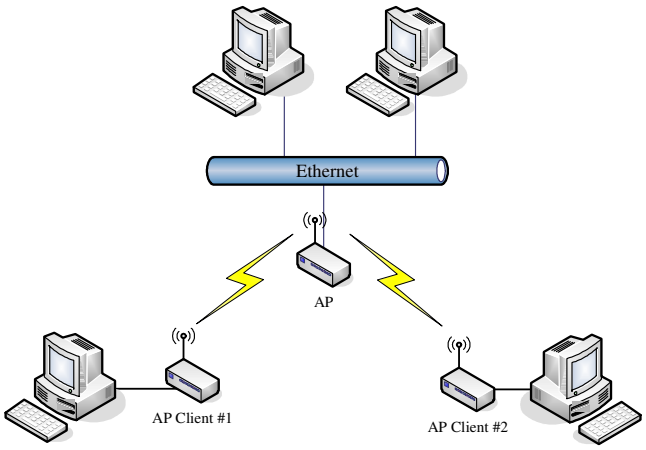
   Wireless Distribution System, this mode serves as a wireless repeater, only devices with WDS function supported can connect to it, all the wireless clients can't survey and connect the device when the mode is selected.

4. AP+WDS

   Support both AP and WDS functions, the wireless clients and devices with WDS function supported can survey and connect to it.

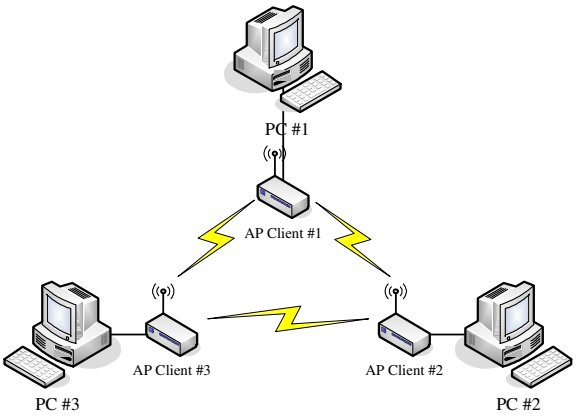
- ***Infrastructure***:

  This type requires the presence of 802.11b/g Access Point. All communication is done via the Access Point.



- ***Ad Hoc***:

  This type provides a peer-to-peer communication between wireless stations. All the communication is done from Client to Client without any Access Point involved. Ad Hoc networking must use the same SSID and channel for establishing the wireless connection.



In client mode, the device can't support the Router mode function including Firewall and WAN settings.

SSID:

The SSID is a unique identifier that wireless networking devices use to establish and maintain wireless connectivity. Multiple access point/bridges on a network or sub-network can use the same SSID. SSIDs are case sensitive and can contain up to 32 alphanumeric characters. Do not include spaces in your SSID.

Channel Number

The following table is the available frequencies (in MHz) for the 2.4-GHz radio:

Channel No.	Frequency	Country Domain
1	2412	Americas, EMEA, Japan, and China
2	2417	Americas, EMEA, Japan, and China
3	2422	Americas, EMEA, Japan, Israel, and China
4	2427	Americas, EMEA, Japan, Israel, and China
5	2432	Americas, EMEA, Japan, Israel, and China
6	2437	Americas, EMEA, Japan, Israel, and China
7	2442	Americas, EMEA, Japan, Israel, and China
8	2447	Americas, EMEA, Japan, Israel, and China
9	2452	Americas, EMEA, Japan, Israel, and China
10	2457	Americas, EMEA, Japan, and China
11	2462	Americas, EMEA, Japan, and China
12	2467	EMEA and Japan only
13	2472	EMEA and Japan only
14	2484	Japan only

When set to “Auto”, the device will find the least-congested channel for use.

Associated Client

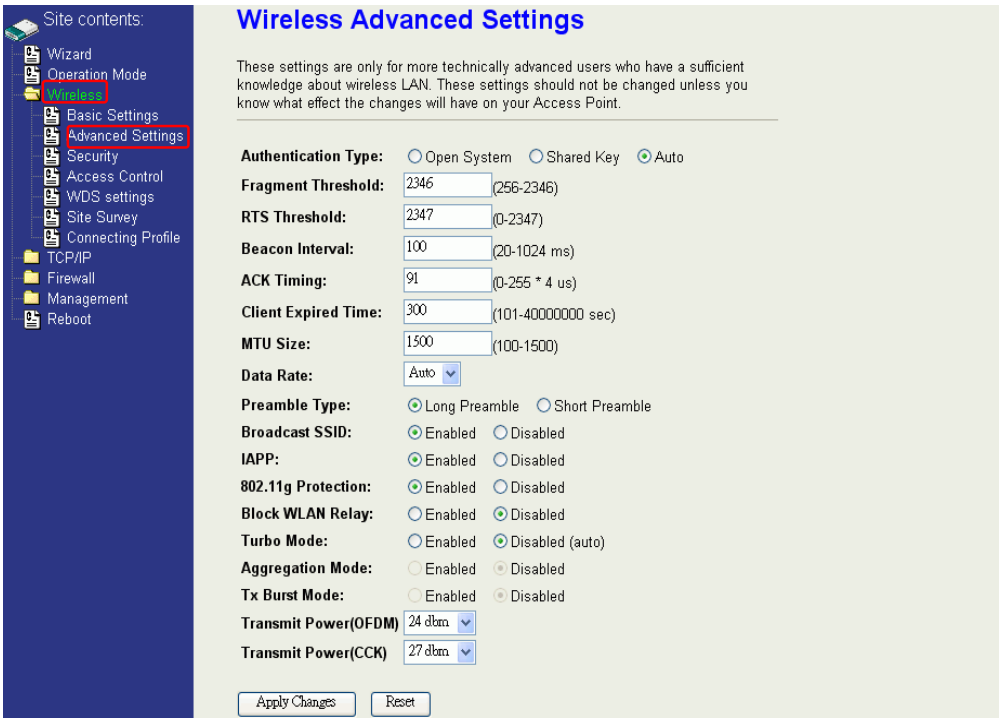
Show the information of active wireless client stations that connected to the device.

Advanced Settings

These settings are only for more technically advanced users who have sufficient knowledge about wireless LAN. These settings should not be changed unless you know what effect the changes will have on your device. The default setting is optimized for the normal operation. For specific application, setting configuration will required highly attention to reach optimistic condition.

Note：

Any unreasonable value change to default setting will reduce the throughput of the device.


Site contents:
Wizard
Operation Mode
Wireless
Basic Settings
Advanced Settings
Security
Access Control
WDS settings
Site Survey
Connecting Profile
TCP/IP
Firewall
Management
Reboot
Wireless Advanced Settings
These settings are only for more technically advanced users who have a sufficient knowledge about wireless LAN. These settings should not be changed unless you know what effect the changes will have on your Access Point.
Authentication Type: Open System Shared Key Auto
Fragment Threshold: 2346 (256-2346)
RTS Threshold: 2347 (0-2347)
Beacon Interval: 100 (20-1024 ms)
ACK Timing: 91 (0-255 * 4 us)
Client Expired Time: 300 (101-40000000 sec)
MTU Size: 1500 (100-1500)
Data Rate: Auto
Preamble Type: Long Preamble Short Preamble
Broadcast SSID: Enabled Disabled
IAPP: Enabled Disabled
802.11g Protection: Enabled Disabled
Block WLAN Relay: Enabled Disabled
Turbo Mode: Enabled Disabled (auto)
Aggregation Mode: Enabled Disabled
Tx Burst Mode: Enabled Disabled
Transmit Power(OFDM) 24 dbm
Transmit Power(CCK) 27 dbm
Apply Changes
Reset

Authentication Type

The device supports two Authentication Types “Open system” and “Shared Key”. When you select “Share Key”, you need to setup “WEP” key in “Security” page (See the next section). The default setting is “Auto”. The wireless client can associate with the device by using one of the two types.

Fragment Threshold

The fragmentation threshold determines the size at which packets are fragmented (sent as several pieces instead of as one block). Use a low setting in areas where communication is poor or where there is a great deal of radio interference. This function will help you to improve the network performance.

RTS Threshold

The RTS threshold determines the packet size at which the radio issues a request to send (RTS) before sending the packet. A low RTS Threshold setting can be useful in areas where many client devices are associating with the device, or in areas where the clients are far apart and can detect only the device and not each other. You can enter a setting ranging from 0 to 2347 bytes.

Beacon Interval

The beacon interval is the amount of time between access point beacons in mini-seconds. The default beacon interval is 100.

ACK Timing

Acknowledgement Timing, is the amount of time that device wait client's response. This concept is related to EIFS (Extended Inter-Frame Space). The EIFS interval shall begin while the device is idle after detection of the erroneous frame. The EIFS is defined to provide enough time for another device to acknowledge what was, to this device, an incorrectly received frame before this device commences transmission. The default ACK timing is 91*4us. You may need to change this value due to the environment or distance.

Client Expired Time

The client expired time determines time interval the client need to re-associate with the device while client is idle. The default client expired time is 300 sec.

MTU Size

Maximum Transmission Unit, the default MTU size is 1500. The MTU setting controls the maximum Ethernet packet size your PC will send. Why a limit? Because although larger packets can be constructed and sent, your ISP and Internet backbone routers and equipment will fragment any larger than their limit, then these parts are re-assembled by the target equipment before reading. This fragmentation and re-assembly is not optimal. You may need to change the MTU for optimal performance of your wireless LAN traffic.

Data Rate

The standard IEEE 802.11b/11g supports 1, 2, 5.5, 11 / 6, 9, 12, 18, 24, 36, 48 and 54 Mbps data rates. You can choose the rate that the device uses for data transmission. The default value is "auto". The device will use the highest possible selected transmission rate.

Broadcast SSID

Broadcasting the SSID will let your wireless clients find the device automatically. If you are building a public Wireless Network, disable this function can provide better security. Every wireless stations located within the coverage of the device must connect this device by manually configure the

SSID in your client settings.

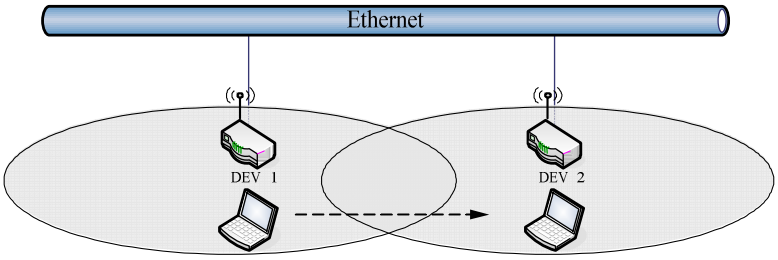
IAPP (Inter-Access Point Protocol)

This function will let Wireless Stations roam among a network environment with multiple devices. Wireless Stations are able to switch from one device to another as they move between the coverage areas. Users can have more wireless working range. An example is as the following figure.

You should comply with the following instructions to roam among the wireless coverage areas.

Note： For implementing the roaming function, the setting MUST comply the following two items.

- All the devices must be in the same subnet network and the SSID must be the same.
- If you use the 802.1x authentication, you need to have the user profile in these devices for the roaming station.



Block WLAN Relay (Isolate Client)

The device supports isolation function. If you are building a public Wireless Network, enable this function can provide better security. The device will block packets between wireless clients (relay). All the wireless clients connected to the device can't see each other.

Transmit Power

The device supports eleven transmission output power levels from 17 to 27dBm for CCK (802.11b) mode and eight transmission output power levels from 17 to 24dBm for OFDM (802.11g) mode. User can adjust the power level to change the coverage of the device. Every wireless stations located within the coverage of the device also needs to have the high power radio. Otherwise the wireless stations only can survey the device, but can't establish connection with device.

Configuring Wireless Security

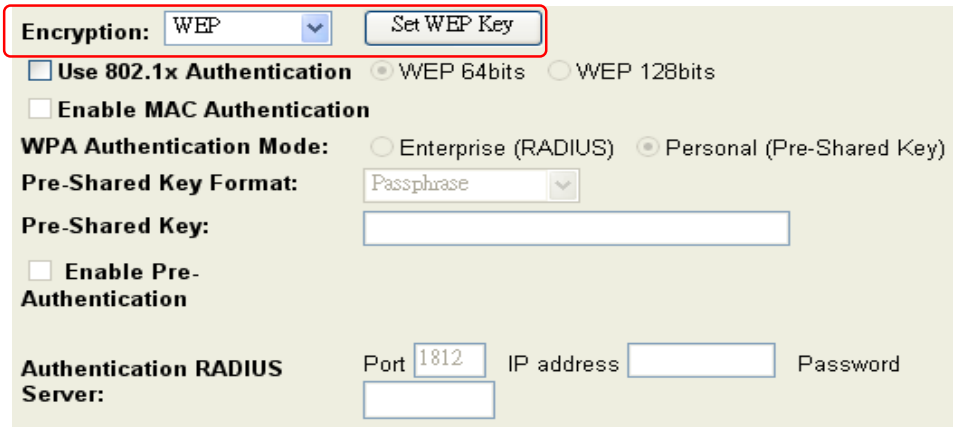
This device provides complete wireless security function include WEP, 802.1x, WPA-TKIP, WPA2-AES and WPA2-Mixed in different mode (see the Security Support Table).

The default security setting of the encryption function is disabled. Choose your preferred security setting depending on what security function you need.

Site contents:
Wizard
Operation Mode
Wireless
Basic Settings
Advanced Settings
Security
Access Control
WDS settings
Site Survey
Connecting Profile
TCP/IP
Firewall
Management
Reboot
Wireless Security Setup
This page allows you setup the wireless security. Turn on WEP or WPA by using Encryption Keys could prevent any unauthorized access to your wireless network.
Authentication Type: Open System Shared Key Auto
Encryption: None Set WEP Key
Use 802.1x Authentication WEP 64bits WEP 128bits
Enable MAC Authentication
WPA Authentication Mode: Enterprise (RADIUS) Personal (Pre-Shared Key)
Pre-Shared Key Format: Passphrase
Pre-Shared Key:
Enable Pre-Authentication
Authentication RADIUS Server: Port 1812 IP address Password
Note: When encryption WEP is selected, you must set WEP key value.
Apply Changes Reset

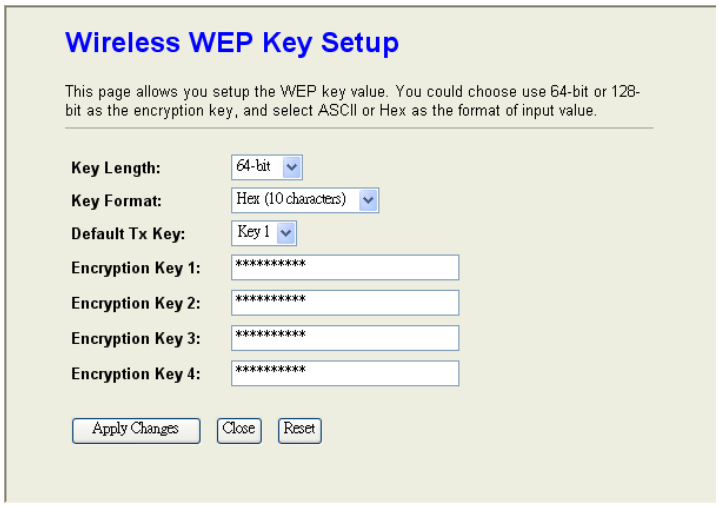
WEP Encryption Setting

Wired Equivalent Privacy (WEP) is implemented in this device to prevent unauthorized access to your wireless network. The WEP setting must be as same as each client in your wireless network. For more secure data transmission, you can change encryption type to “WEP” and click the “Set WEP Key” button to open the “Wireless WEP Key setup” page.


Encryption: WEP Set WEP Key
Use 802.1x Authentication WEP 64bits WEP 128bits
Enable MAC Authentication
WPA Authentication Mode: Enterprise (RADIUS) Personal (Pre-Shared Key)
Pre-Shared Key Format: Passphrase
Pre-Shared Key:
Enable Pre-Authentication
Authentication RADIUS Server: Port 1812 IP address Password

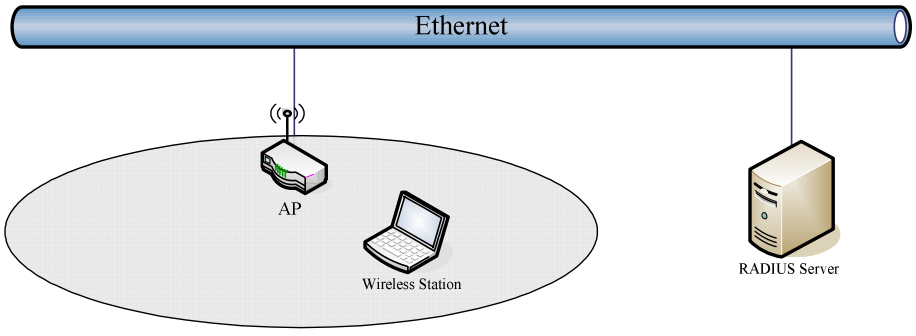
When you decide to use the WEP encryption to secure your WLAN, please refer to the following setting of the WEP encryption:

- 64-bit WEP Encryption：64-bit WEP keys are as same as the encryption method of 40-bit WEP. You can input 10 hexadecimal digits (0~9, a~f or A~F) or 5 ACSII chars.
- 128-bit WEP Encryption：128-bit WEP keys are as same as the encryption method of 104-bit WEP. You can input 26 hexadecimal digits (0~9, a~f or A~F) or 10 ACSII chars.
- The Default Tx Key field decides which of the four keys you want to use in your WLAN environment.



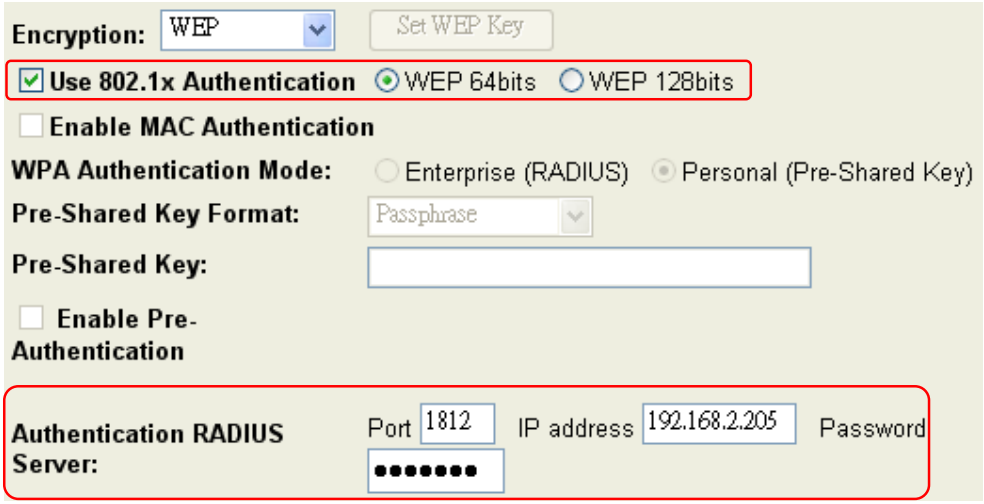
WEP Encryption with 802.1x Setting

The device supports external RADIUS Server that can secure networks against unauthorized access. If you use the WEP encryption, you can also use the RADIUS server to check the admission of the users. By this way every user must use a valid account before accessing the Wireless LAN and requires a RADIUS or other authentication server on the network. An example is shown as following.



You should choose WEP 64 or 128 bit encryption to fit with your network environment first. Then add user accounts and the target device to the

RADIUS server. In the device , you need to specify the IP address、Password (Shared Secret) and Port number of the target RADIUS server.



WPA Encryption Setting

WPA feature provides a high level of assurance for end-users and administrators that their data will remain private and access to their network restricted to authorized users. You can choose the WPA encryption and select the Authentication Mode.

WPA Authentication Mode

This device supports two WPA modes. For personal user, you can use the Pre-shared Key to enhance your security setting. This mode requires only an access point and client station that supports WPA-PSK. For Enterprise, authentication is achieved via WPA RADIUS Server. You need a RADIUS or other authentication server on the network.

- **Enterprise (RADIUS):**

  When WPA Authentication mode is Enterprise (RADIUS), you have to add user accounts and the target device to the RADIUS Server. In the device , you need to specify the IP address、Password (Shared Secret) and Port number of the target RADIUS server.

- **Pre-Share Key:**

  This mode requires only an access point and client station that supports WPA-PSK. The WPA-PSK settings include Key Format, Length and Value. They must be as same as each wireless client in your wireless network. When Key format is Passphrase, the key value should have 8~63 ACSII chars. When Key format is Hex, the key value should have 64 hexadecimal

digits (0~9, a~f or A~F).

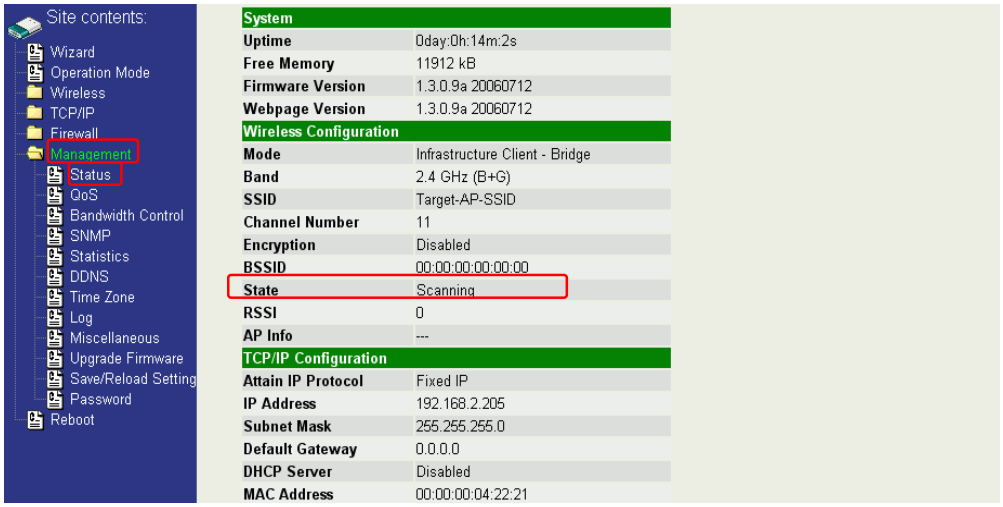
Configuring as WLAN Client Adapter

This device can be configured as a wireless Ethernet adapter. In this mode, the device can connect to the other wireless stations (Ad-Hoc network type) or Access Point (Infrastructure network type) and you don't need to install any driver.

Quick start to configure

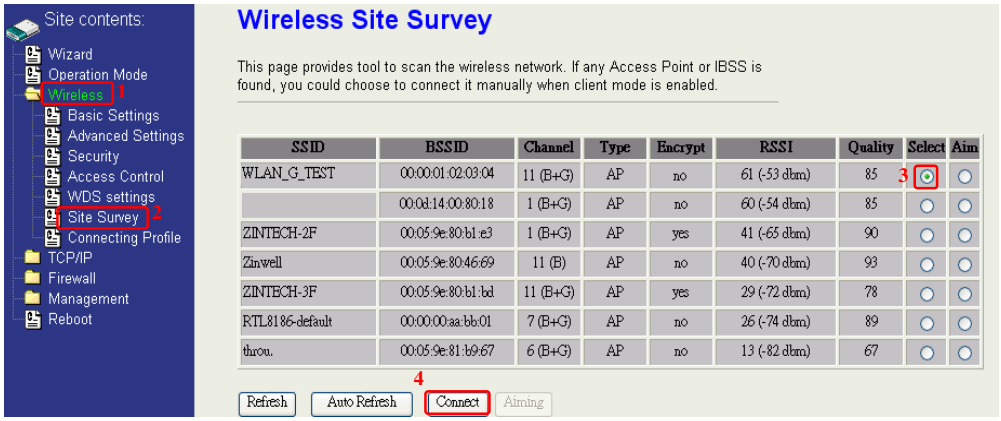
Step 1. In "Basic Settings" page, change the Mode to "Client" mode. And key in the SSID of the AP you want to connect then press "Apply Changes" button to apply the change.

Step 2. Check the status of connection in "Status" web page

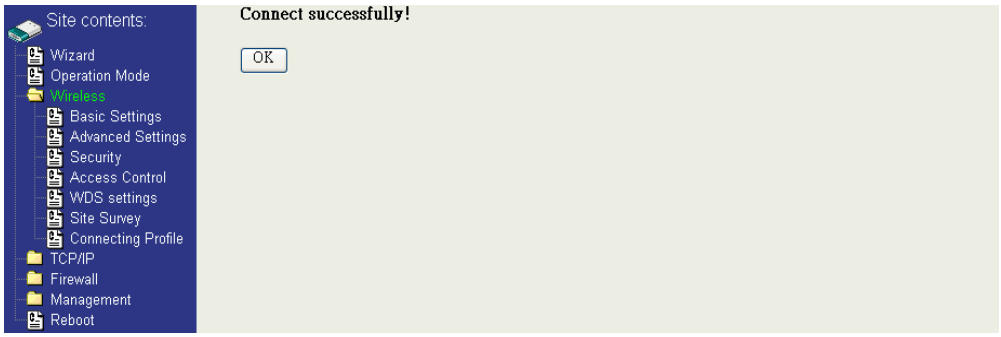


The alternative way to configure as following:

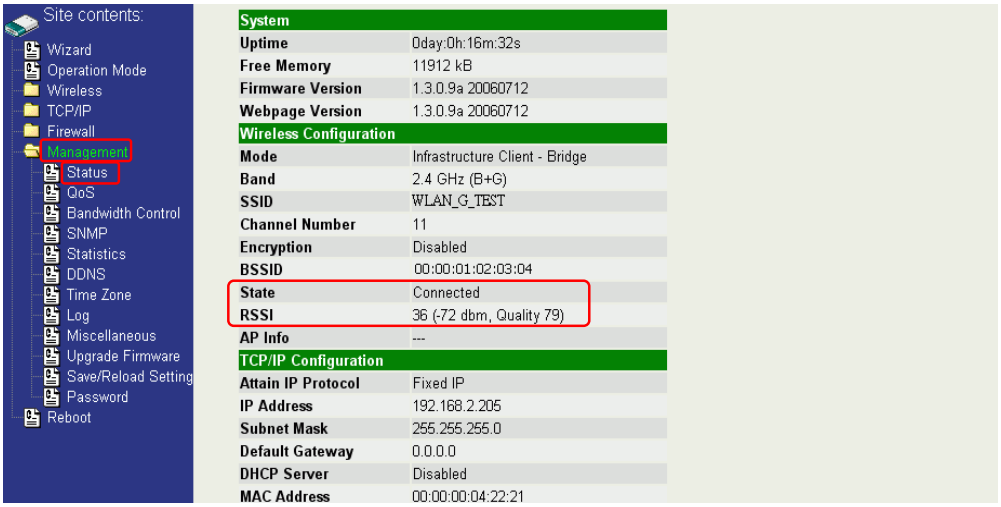
Step 1. In “Wireless Site Survey” page, select one of the SSIDs you want to connect and then press “Connect” button to establish the link.


Site contents:
Wizard
Operation Mode
Wireless
1
Basic Settings
Advanced Settings
Security
Access Control
WDS settings
Site Survey
2
Connecting Profile
TCP/IP
Firewall
Management
Reboot
Wireless Site Survey
This page provides tool to scan the wireless network. If any Access Point or IBSS is found, you could choose to connect it manually when client mode is enabled.
SSID BSSID Channel Type Encrypt RSSI Quality Select Aim
WLAN_G_TEST 00:00:01:02:03:04 11 (B+G) AP no 61 (-53 dbm) 85
3
00:0d:14:00:80:18 1 (B+G) AP no 60 (-54 dbm) 85
ZINTECH-2F 00:05:9e:80:b1:e3 1 (B+G) AP yes 41 (-65 dbm) 90
Zinwell 00:05:9e:80:46:69 11 (B) AP no 40 (-70 dbm) 93
ZINTECH-3F 00:05:9e:80:b1:bd 11 (B+G) AP yes 29 (-72 dbm) 78
RTL8186-default 00:00:00:aa:bb:01 7 (B+G) AP no 26 (-74 dbm) 89
throu. 00:05:9e:81:b9:67 6 (B+G) AP no 13 (-82 dbm) 67
4
Refresh
Auto Refresh
Connect
Aiming

Step 2. If the linking is established successfully. It will show the message “Connect successfully”. Then press “OK”.



Step 3. Then you can check the linking information in “Status” page.



Note ：

If the available network requires authentication and data encryption, you need to setup the authentication and encryption before step1 and all the settings must be as same as the Access Point or Station. About the detail authentication and data encryption settings, please refer the security section.

Authentication Type

In client mode, the device also supports two Authentication Types “Open system” and “Shared Key”. Although the default setting is “Auto”, not every Access Points can support “Auto” mode. If the authentication type on the Access Point is knew by user, we suggest to set the authentication type as same as the Access Point.

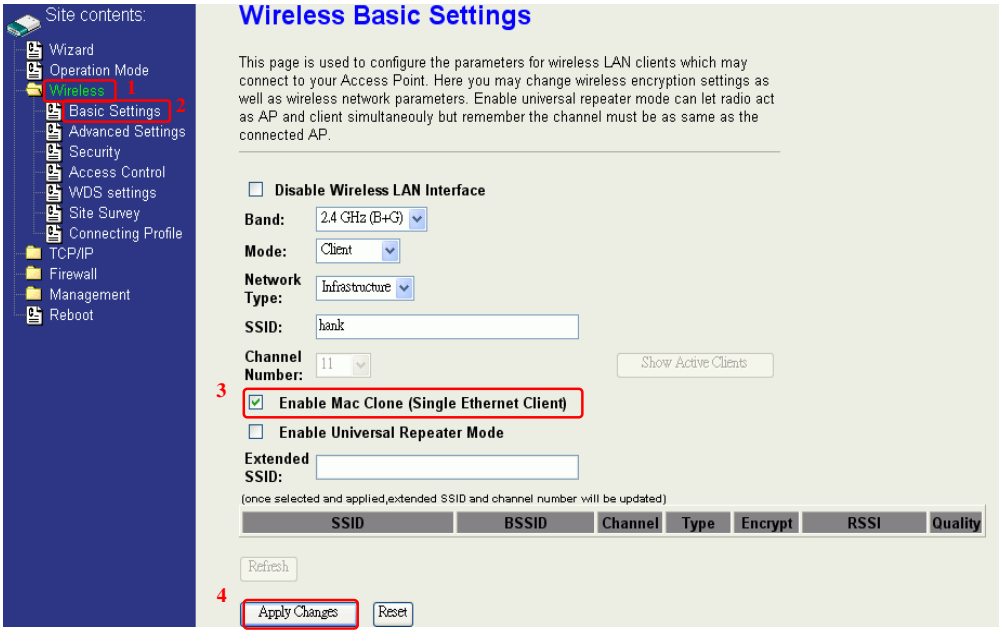
Data Encryption

In client mode, the device supports WEP and WPA Personal/Enterprise except WPA2 mixed mode data encryption. About the detail data encryption settings, please refer the security section.

MAC Clone for Single Ethernet Client

Enable/Disable Mac Clone (Single Ethernet Client) in Wireless-Basic Settings page determines whether the Ethernet Client use it’s own MAC address or AP-Client’s MAC address to transmit data. Enable MAC Clone, the single Ethernet client can use its own MAC address. Disable MAC Clone, the single Ethernet client must to use AP-Client’s MAC address.

While you use this device act as AP-Client and only one host connect to this device via Ethernet, you need to check this option in this page, otherwise the other device can't recognize your host behind AP-Client. If you use hub/switch connect multi-device to this AP-Client, you should uncheck this option.

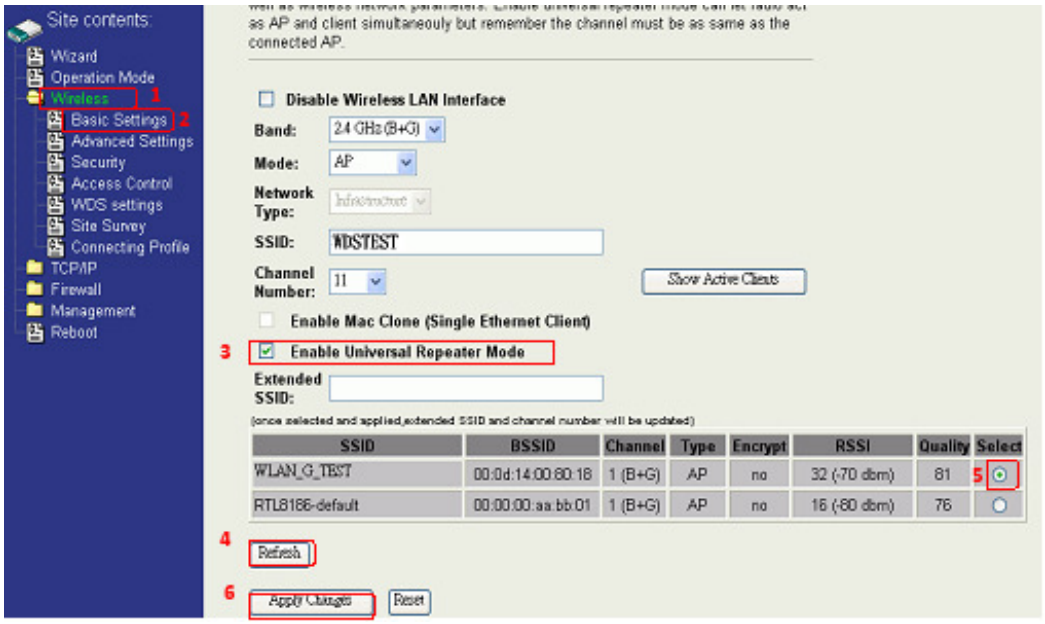


Configuring Universal Repeater

This device can be configured as a Repeater. In this mode, the device can extend available wireless range of other AP let user can link the network that they want, Also the device working as AP and Repeater same time.

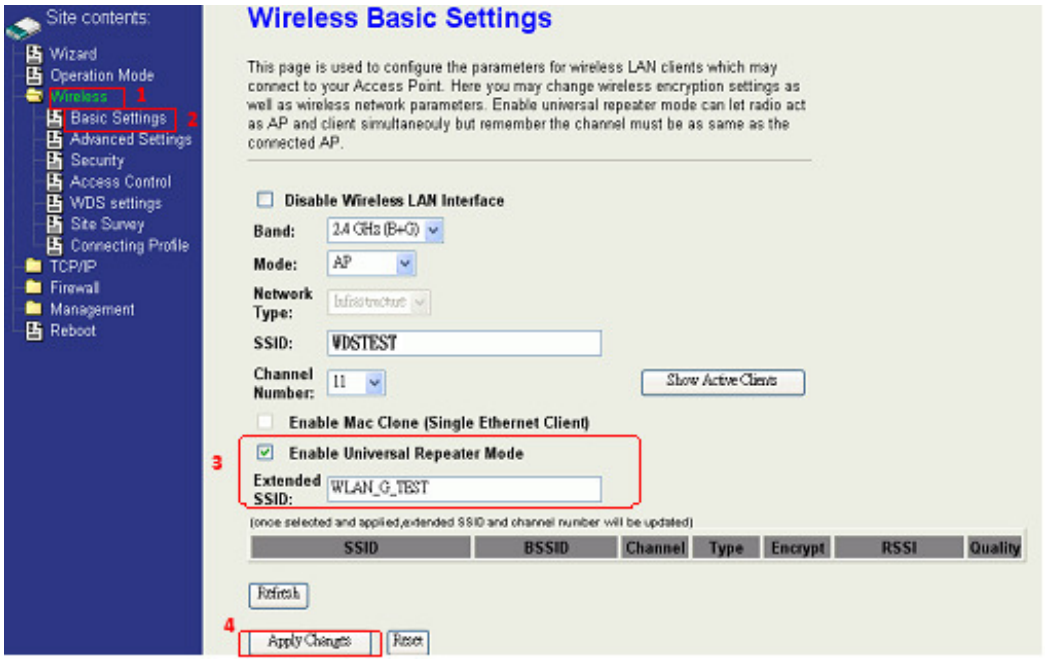
Following two ways describe how to make Universal Repeater effective.

1. Enable Universal Repeater Mode and then select a SSID in the Table that you want. Final click Apply Changes button to take effective. **(Click Refresh button to make table renew)**



Note: Under **AP、WDS and AP+WDS mode**, The Universal Repeater can take effective.

2. Enter specific SSID in the Extended SSID field and then click Apply Changes button to take effective.



Ch 3. Configuring WDS

Wireless Distribution System (WDS) uses wireless media to communicate with the other devices, like the Ethernet does. This function allows one or more remote LANs connect with the local LAN. To do this, you must set these devices in the same channel and set MAC address of other devices you want to communicate with in the WDS AP List and then enable the WDS.

When you decide to use the WDS to extend your WLAN, please refer the following instructions for configuration.

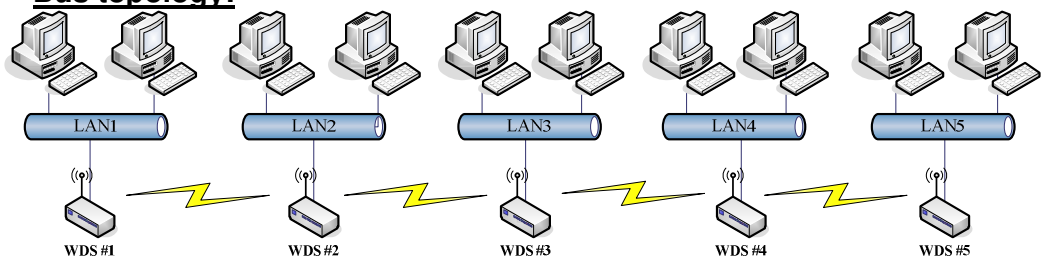
- The bridging devices by WDS must use the same radio channel.
- When the WDS function is enabled, all wireless stations can't connect the device.
- If your network topology has a loop, you need to enable the 802.1d Spanning Tree function.
- You don't need to add all MAC address of devices existed in your network to WDS AP List. WDS AP List only needs to specify the MAC address of devices you need to directly connect to.
- The bandwidth of device is limited, to add more bridging devices will split the more bandwidth to every bridging device.

WDS network topology

In this section, we will demonstrate the WDS network topologies and WDS AP List configuration. You can setup the four kinds of network topologies: bus, star, ring and mesh.

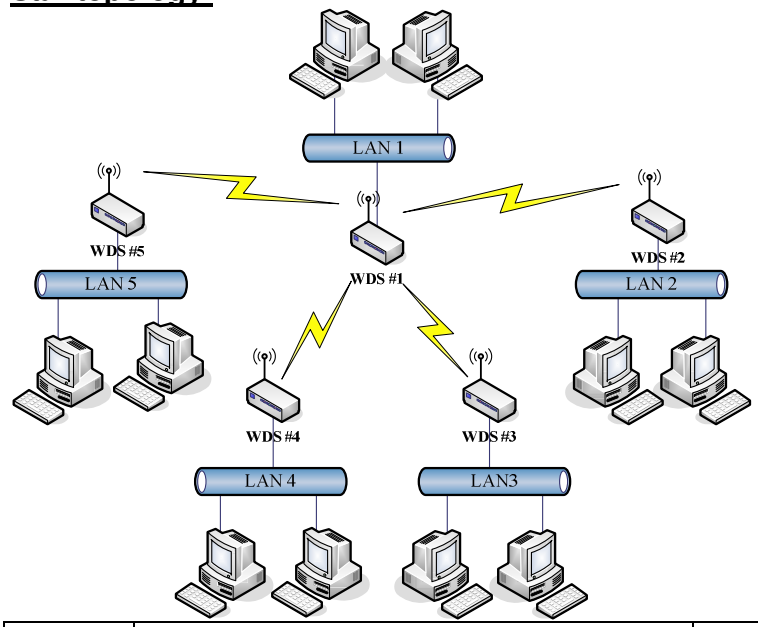
In this case, there are five devices with WDS enabled: WDS1, WDS2, WDS3, WDS4 and WDS5.

Bus topology:



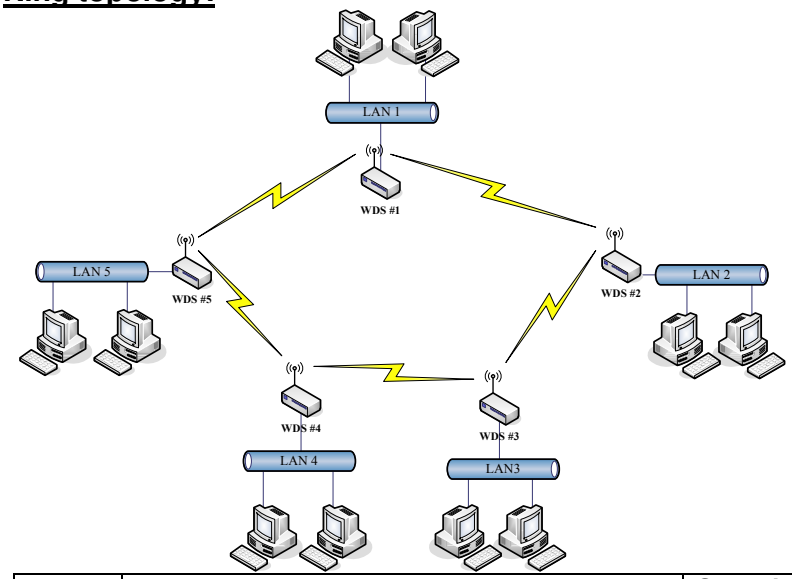
Device	Entries of WDS AP List	Spanning Tree Protocol Required
WDS1	The MAC Address of WDS2	No
WDS2	The MAC Addresses of WDS1 and WDS3	No
WDS3	The MAC Addresses of WDS2 and WDS4	No
WDS4	The MAC Addresses of WDS3 and WDS5	No
WDS5	The MAC Address of WDS4	No

Star topology:



Device	Entries of WDS AP List	Spanning Tree Protocol Required
WDS1	The MAC Addresses of WDS2, WDS3, WDS4 and WDS5	No
WDS2	The MAC Address of WDS1	No
WDS3	The MAC Address of WDS1	No
WDS4	The MAC Address of WDS1	No
WDS5	The MAC Address of WDS1	No

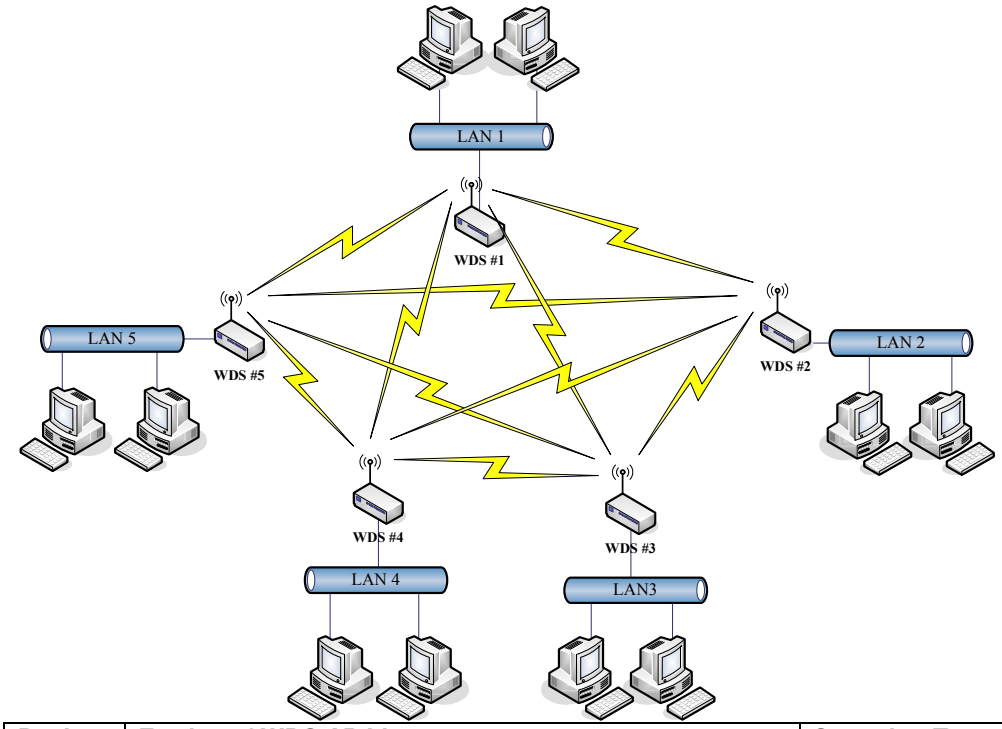
Ring topology:



Device	Entries of WDS AP List	Spanning Tree Protocol Required
WDS1	The MAC Addresses of WDS2 and WDS5	Yes
WDS2	The MAC Addresses of WDS1 and WDS3	Yes
WDS3	The MAC Addresses of WDS2 and WDS4	Yes
WDS4	The MAC Addresses of WDS3 and WDS5	Yes

WDS5	The MAC Addresses of WDS4 and WDS1	Yes

Mesh topology：



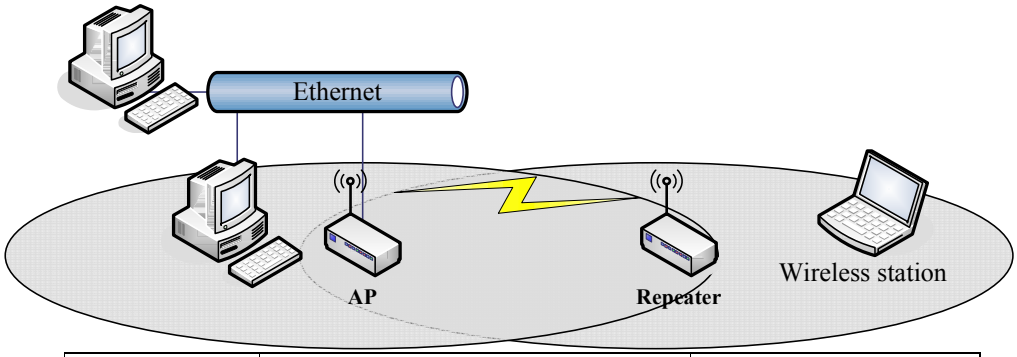
Device	Entries of WDS AP List	Spanning Tree Protocol Required
WDS1	The MAC Addresses of WDS2, WDS3, WDS4 and WDS5	Yes
WDS2	The MAC Addresses of WDS1, WDS3, WDS4 and WDS5	Yes
WDS3	The MAC Addresses of WDS1, WDS2, WDS4 and WDS5	Yes
WDS4	The MAC Addresses of WDS1, WDS2, WDS3 and WDS5	Yes
WDS5	The MAC Addresses of WDS1, WDS2, WDS3 and WDS4	Yes

WDS Application

Wireless Repeater

Wireless Repeater can be used to increase the coverage area of another device (Parent AP). Between the Parent AP and the Wireless Repeater, wireless stations can move among the coverage areas of both devices. When you decide to use the WDS as a Repeater, please refer the following instructions for configuration.

- In AP mode, enable the WDS function.
- You must set these connected devices with the same radio channel and SSID.
- Choose “WDS+AP” mode.
- Using the bus or star network topology.



Description	Entries of WDS AP List	Spanning Tree Protocol Required
Access Point	The MAC Address of Repeater	Yes
Repeater	The MAC Address of Access Point	Yes

Wireless Bridge

Wireless Bridge can establish a wireless connection between two or more Wired LANs. When you decide to use the WDS as a Wireless Bridge, please refer the following instructions for configuration.

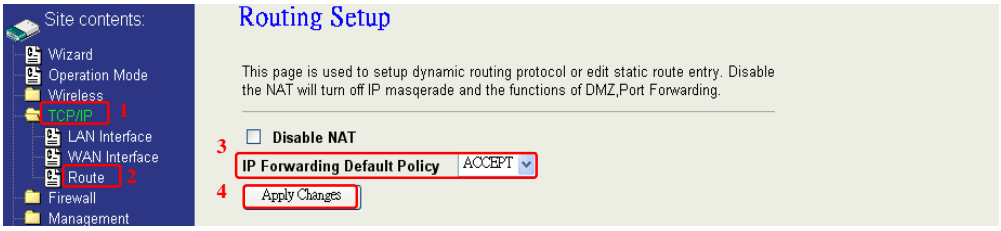
- In AP mode, enable the WDS function.
- You must set these connected devices with the same radio channel, but you may use different SSID.
- Choose “WDS” mode for only wireless backbone extension purpose.
- You can use any network topology, please refer the WDS topology section.

Ch 4. Advanced Configurations

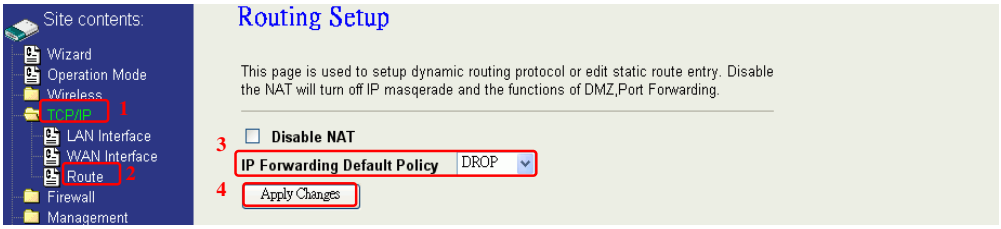
Configuring LAN to WAN Firewall

Filtering function is used to block or permit packets from LAN to WAN. The device supports three kinds of filter Port Filtering, IP Filtering and MAC Filtering. All the entries in current filter table are used to restrict or allow certain types of packets from your local network to through the device. Use of such filters can be helpful in securing or restricting your local network. Denied or Allowed list depends on your IP forwarding default policy in Route page. The IP forwarding default policy is “ACCEPT”.

If you want block some application from LAN to WAN, you can go to Route page to select “ACCEPT” for IP Forwarding Default Policy.

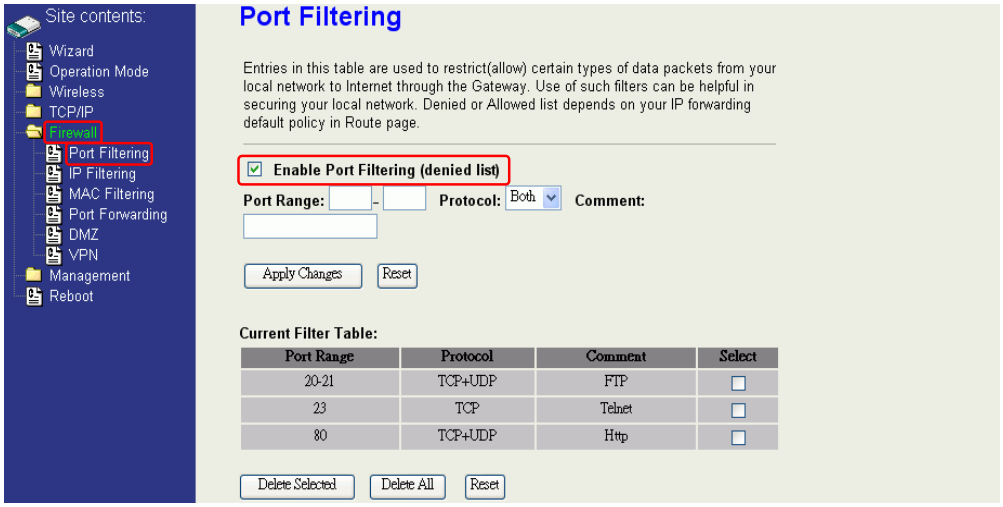


If you want permit some application from LAN to WAN, you can go to Route page to select “DROP” for IP Forwarding Default Policy.

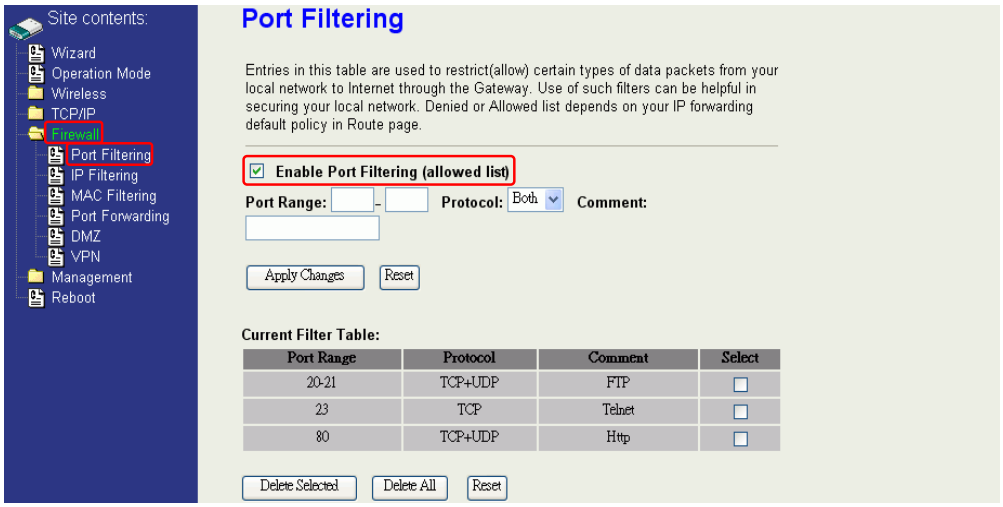


Port Filtering

When you enable the Port Filtering function, you can specify a single port or port ranges in current filter table. If you select ACCEPT for the IP forwarding default policy, once the source port of outgoing packets match the port definition or within the port ranges in the table, the firewall will block those packets form LAN to WAN.

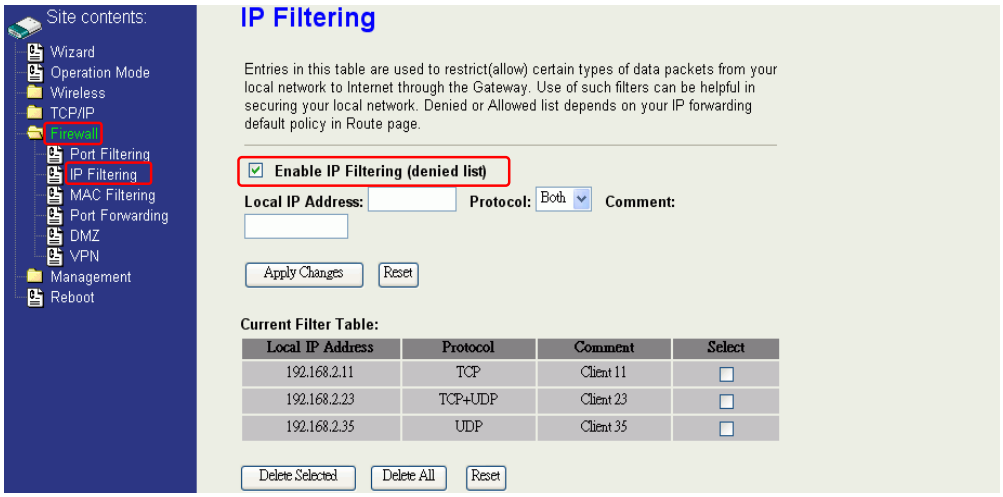


If you select DROP for the IP forwarding default policy, once the source port of outgoing packets match the port definition or within the port ranges in the table, the firewall will allow those packets form LAN to WAN.

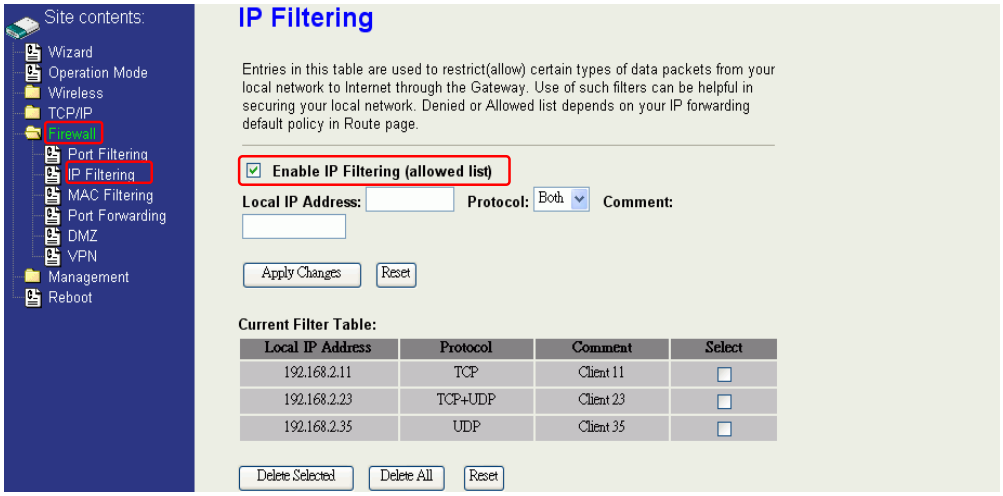


IP Filtering

When you enable the IP Filtering function, you can specify local IP Addresses in current filter table. If you select ACCEPT for the IP forwarding default policy, once the source IP address of outgoing packets match the IP address definition in the table, the firewall will block those packets form LAN to WAN.

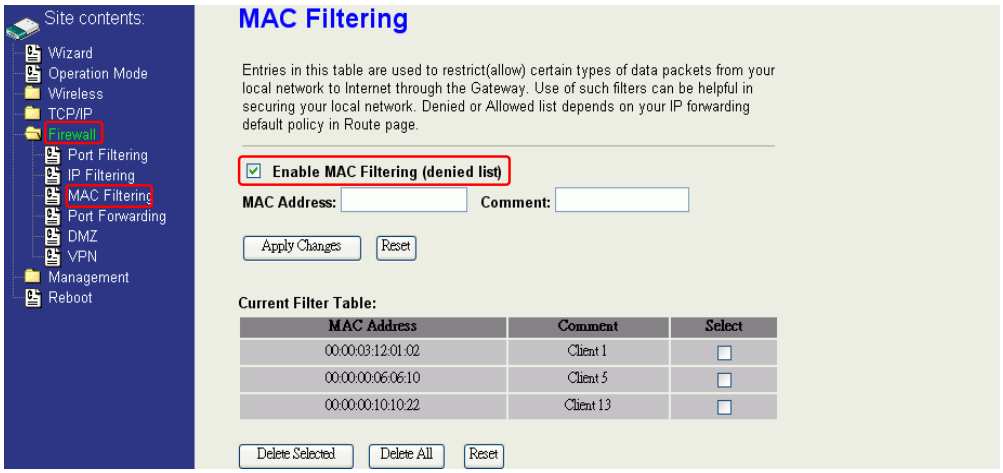


If you select DROP for the IP forwarding default policy, once the source IP address of outgoing packets match the IP address definition in the table, the firewall will allow those packets form LAN to WAN.

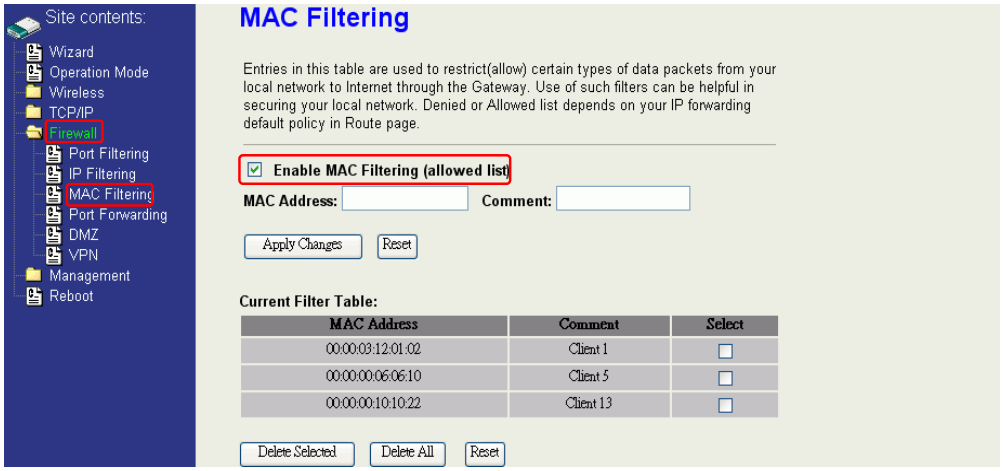


MAC Filtering

When you enable the MAC Filtering function, you can specify the MAC Addresses in current filter table. If you select ACCEPT for the IP forwarding default policy, once the source MAC Address of outgoing packets match the MAC Address definition in the table, the firewall will block those packets form LAN to WAN.

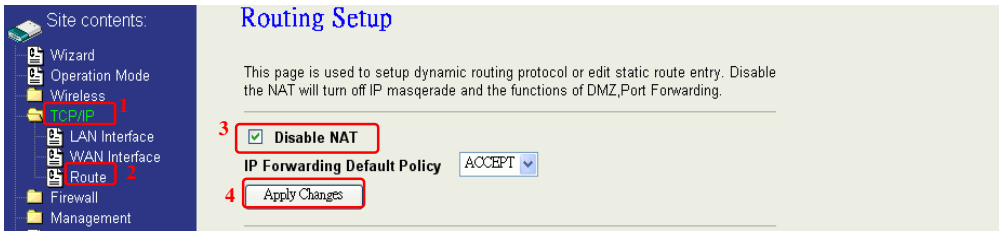


If you select DROP for the IP forwarding default policy, once the source MAC Address of outgoing packets match the MAC Address definition in the table, the firewall will allow those packets form LAN to WAN.



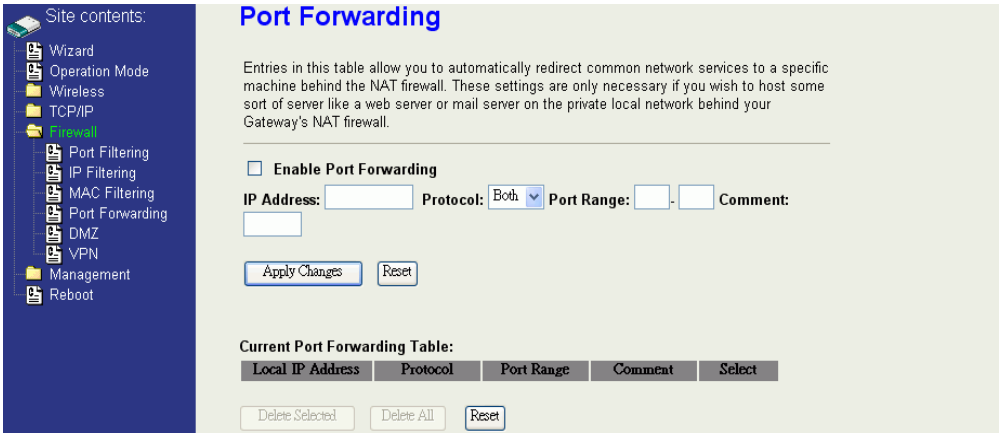
NAT (Network Address Translation)

NAT is the translation between public IP address and private IP address. While NAT is enabling, you can use port forwarding or DMZ to redirect your common network services. If you want to disable NAT, you can go to Management-Route page to disable it and the functions of DMZ, Port Forwarding will be disabled.



Configuring Port Forwarding (Virtual Server)

This function allows you to automatically redirect common network services to a specific machine behind the NAT firewall. These settings are only necessary if you wish to host some sort of server like a web server or mail server on the private local network behind the device's NAT firewall.



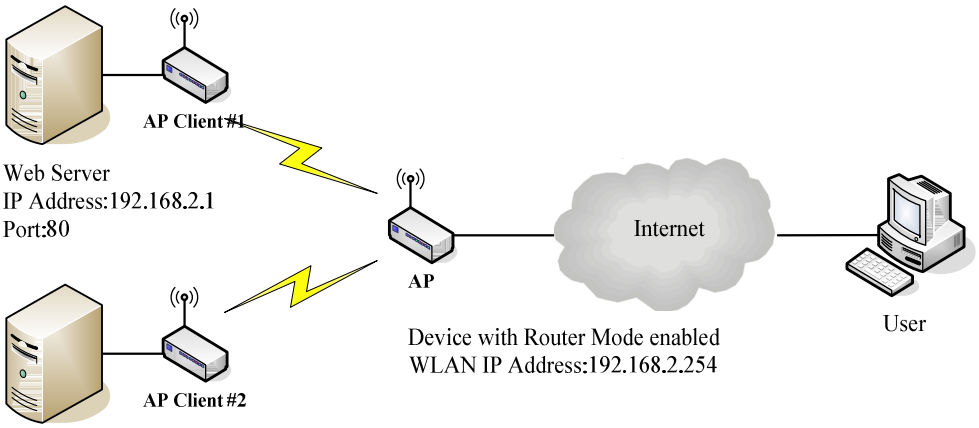
The most often used port numbers are shown in the following table.

Services	Port Number
ECHO	7
FTP (File Transfer Protocol)	21
Telnet	23
SMTP (Simple Mail Transfer Protocol)	25
DNS (Domain Name System)	53
Finger	79
HTTP (Hyper Text Transfer Protocol)	80
POP3 (Post Protocol)	110
NNTP (Network News Transport Protocol)	119
SNMP (Simple Network Management Protocol)	161
SNMP trap	162
SIP (Session Initiation Protocol)	5060
PPTP (Point-to-Point Tunneling Protocol)	1723

About the other well-known ports, please search in http://www.iana.org/assignments/port-numbers.

Multiple Servers behind NAT Example:

In this case, there are two PCs in the local network accessible for outside users.



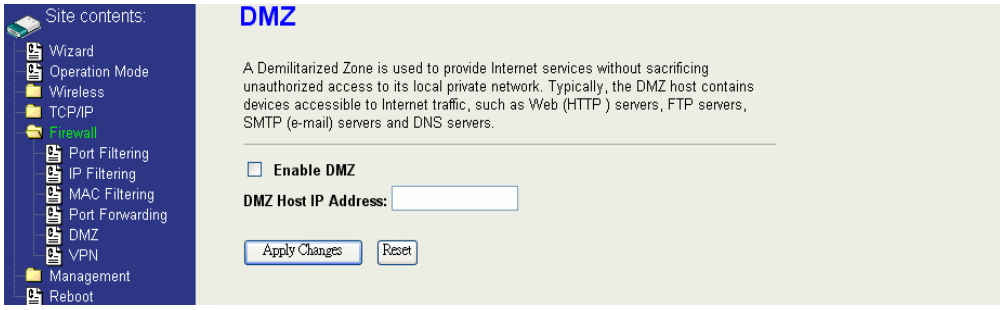
Current Port Forwarding Table:

Local IP Address	Protocol	Port Range	Comment	Select
192.168.2.1	TCP+UDP	80	Web Server	☐
192.168.2.2	TCP+UDP	21	FTP Server	☐

Delete Selected | Delete All | Reset

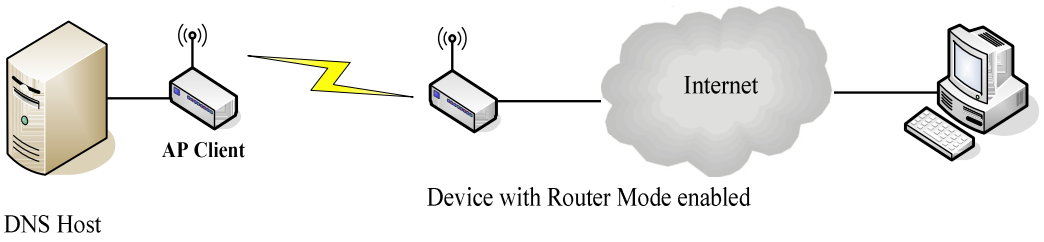
Configuring DMZ

A Demilitarized Zone is used to provide Internet services without sacrificing unauthorized access to its local private network. Typically, the DMZ host contains devices accessible to Internet traffic, such as Web (HTTP) servers, FTP servers, SMTP (e-mail) servers and DNS servers. So that all inbound packets will be redirected to the computer you set. It also is useful while you run some applications (ex. Internet game) that use uncertain incoming ports.



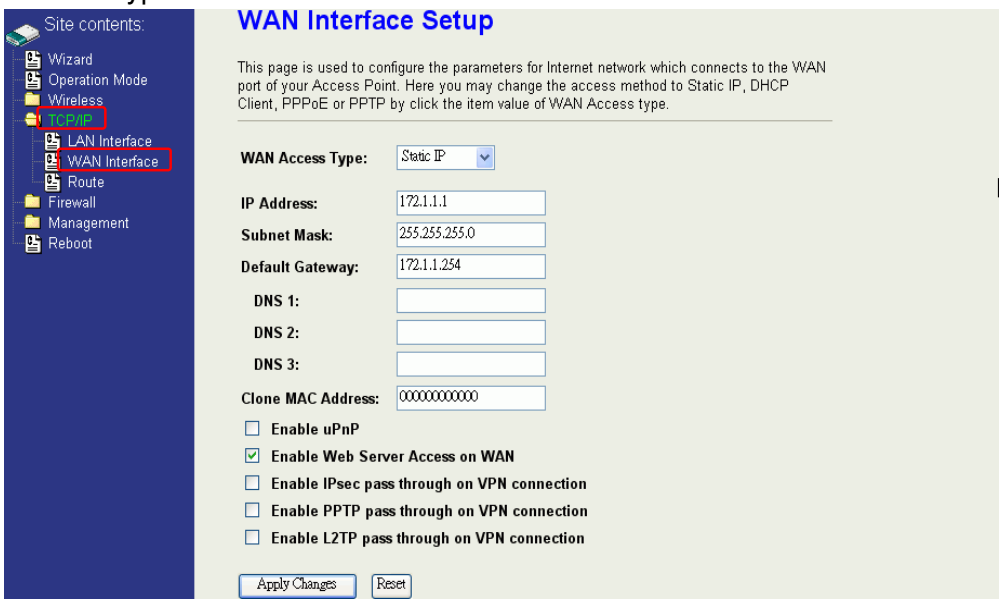
Enable DMZ: Enable the “Enable DMZ”, and then click “Apply Changes” button to save the changes.

DMZ Host IP Address: Input the IP Address of the computer that you want to expose to Internet.



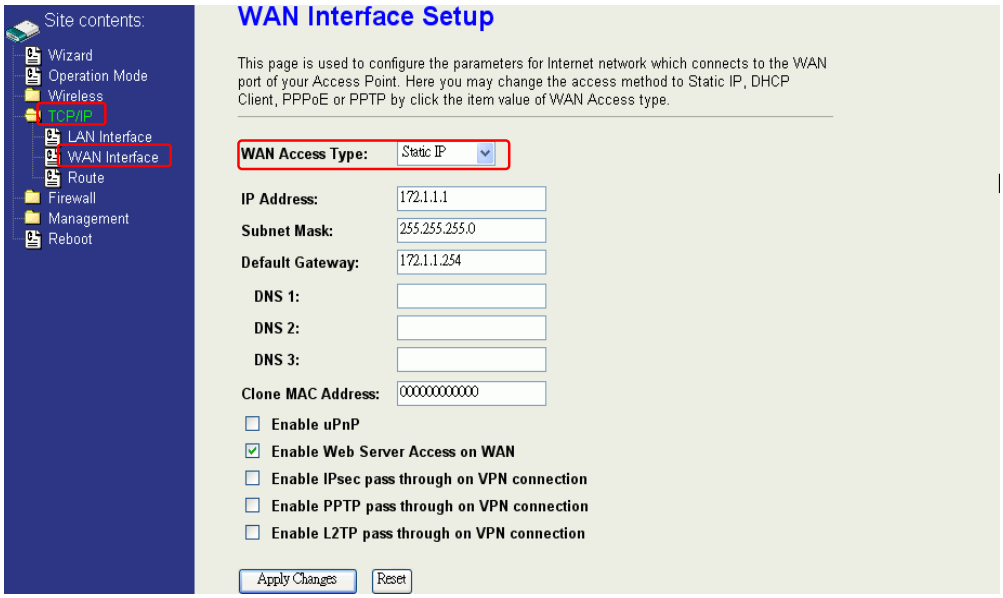
Configuring WAN Interface

The device supports four kinds of IP configuration for WAN interface, including Static IP, DHCP Client, PPPoE and PPTP. You can select one of the WAN Access Types depend on your ISP required. The default WAN Access Type is “Static IP”.



Static IP

You can get the IP configuration data of Static-IP from your ISP. And you will need to fill the fields of IP address, subnet mask, gateway address, and one of the DNS addresses.



IP Address: The Internet Protocol (IP) address of WAN interface provided by your ISP or MIS. The address will be your network identifier besides your local network.

Subnet Mask: The number used to identify the IP subnet network, indicating whether the IP address can be recognized on the LAN or if it must be reached through a gateway.

Default Gateway: The IP address of Default Gateway provided by your ISP or MIS. Default Gateway is the intermediate network device that has knowledge of the network IDs of the other networks in the Wide Area Network, so it can forward the packets to other gateways until they are delivered to the one connected to the specified destination.

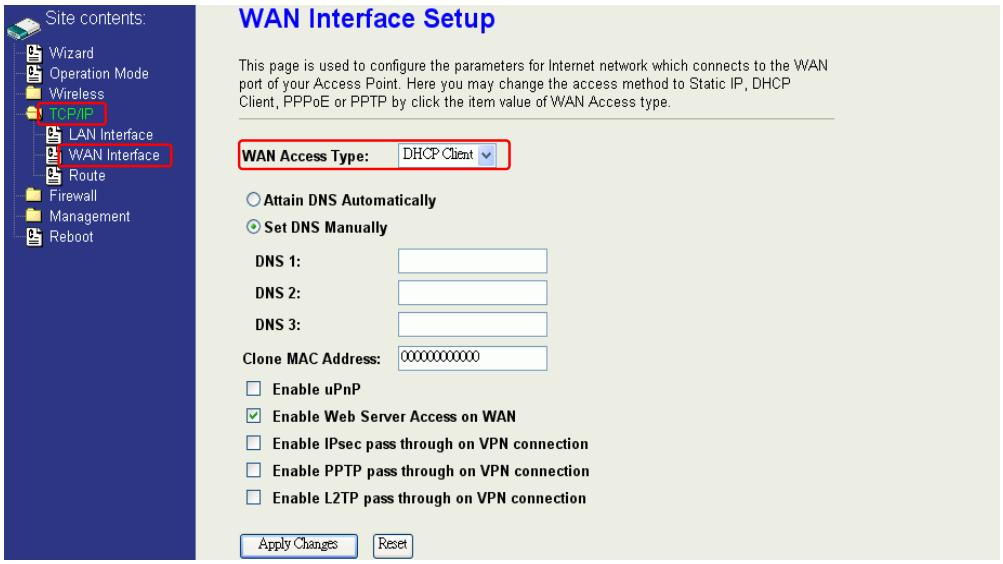
DNS 1~3: The IP addresses of DNS provided by your ISP. DNS (Domain Name Server) is used to map domain names to IP addresses. DNS maintain central lists of domain name/IP addresses and map the domain names in your Internet requests to other servers on the Internet until the specified web site is found.

Clone MAC Address: Clone device MAC address to the specify MAC address required by your ISP

Enable uPnP: Enable uPnP, this function allows the device to be found and configured automatically by the system. (Ex. Window XP)

DHCP Client (Dynamic IP)

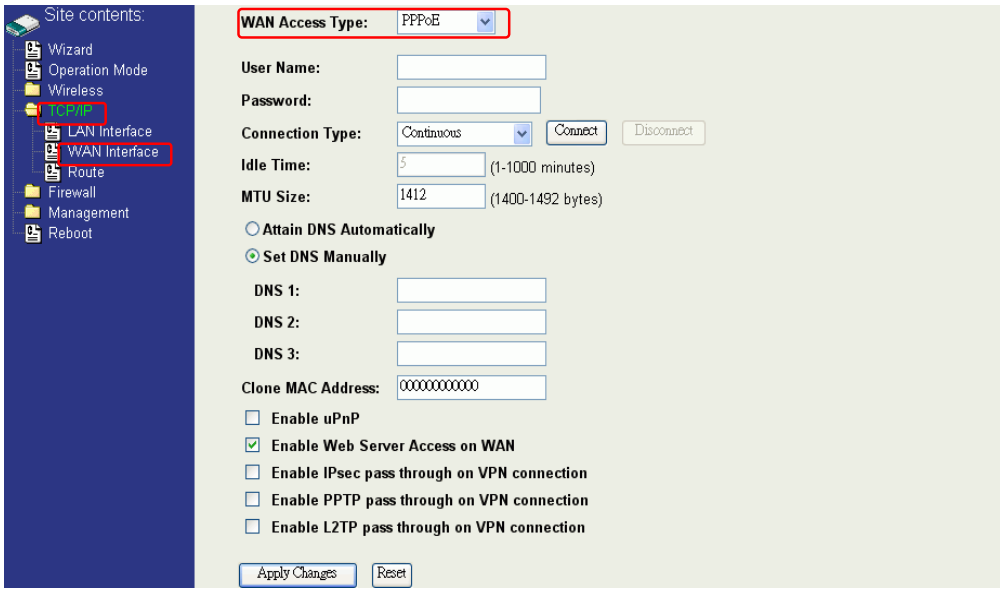
All IP configuration data besides DNS will obtain from the DHCP server when DHCP-Client WAN Access Type is selected.


Site contents:
Wizard
Operation Mode
Wireless
TCP/IP
LAN Interface
WAN Interface
Route
Firewall
Management
Reboot
WAN Interface Setup
This page is used to configure the parameters for Internet network which connects to the WAN port of your Access Point. Here you may change the access method to Static IP, DHCP Client, PPPoE or PPTP by click the item value of WAN Access type.
WAN Access Type:
DHCP Client
Attain DNS Automatically
Set DNS Manually
DNS 1:
DNS 2:
DNS 3:
Clone MAC Address:
00000000000
Enable uPnP
Enable Web Server Access on WAN
Enable IPsec pass through on VPN connection
Enable PPTP pass through on VPN connection
Enable L2TP pass through on VPN connection
Apply Changes
Reset

DNS1~3:	The IP addresses of DNS provided by your ISP. DNS (Domain Name Server) is used to map domain names to IP addresses. DNS maintain central lists of domain name/IP addresses and map the domain names in your Internet requests to other servers on the Internet until the specified web site is found.
Clone MAC Address:	Clone device MAC address to the specify MAC address required by your ISP
Enable uPnP:	Enable uPnP, this function allows the device to be found and configured automatically by the system. (Ex. Window XP)

PPPoE

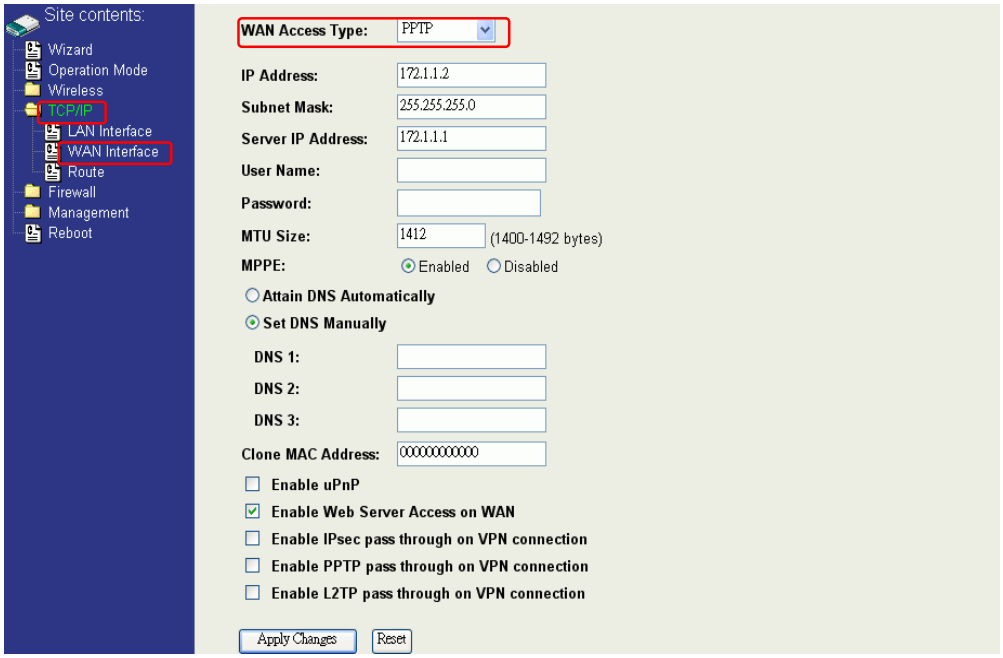
When the PPPoE (Point to Point Protocol over Ethernet) WAN Access Type is selected, you must fill the fields of User Name, Password provided by your ISP. The IP configuration will be done when the device successfully authenticates with your ISP.



User Name:	The account provided by your ISP
Password:	The password for your account.
Connect Type:	"Continuous " : connect to ISP permanently
	"Manual" : Manual connect/disconnect to ISP
	"On-Demand": Automatically connect to ISP when user needs to access the Internet.
Idle Time:	The number of inactivity minutes to disconnect from ISP. This setting is only available when "Connect on Demand" connection type is selected.
MTU Size:	Maximum Transmission Unit, 1412 is the default setting; you may need to change the MTU for optimal performance with your specific ISP.
DNS1~3:	The IP addresses of DNS provided by your ISP.
	DNS (Domain Name Server) is used to map domain names to IP addresses. DNS maintain central lists of domain name/IP addresses and map the domain names in your Internet requests to other servers on the Internet until the specified web site is found.
Clone MAC Address:	Clone device MAC address to the specify MAC address required by your ISP.
Enable UPnP:	Enable UPnP, this function allows the device to be found and configured automatically by the system. (Ex. Window XP)

PPTP

Point to Point Tunneling Protocol (PPTP) is a service that applies to connections in Europe only.



IP Address: The Internet Protocol (IP) address of WAN interface provided by your ISP or MIS. The address will be your network identifier besides your local network.

Subnet Mask: The number used to identify the IP subnet network, indicating whether the IP address can be recognized on the LAN or if it must be reached through a gateway.

Server IP Address: The IP address of PPTP server

(Default Gateway)

User Name: The account provided by your ISP

Password: The password of your account

MTU Size: Maximum Transmission Unit, 1412 is the default setting, you may need to change the MTU for optimal performance with your specific ISP.

DNS1~3: The IP addresses of DNS provided by your ISP.

DNS (Domain Name Server) is used to map domain names to IP addresses. DNS maintain central lists of domain name/IP addresses and map the domain names in your Internet requests to other servers on the Internet until the specified web site is found.

Clone MAC Address: Clone device MAC address to the specify MAC address required by your ISP.

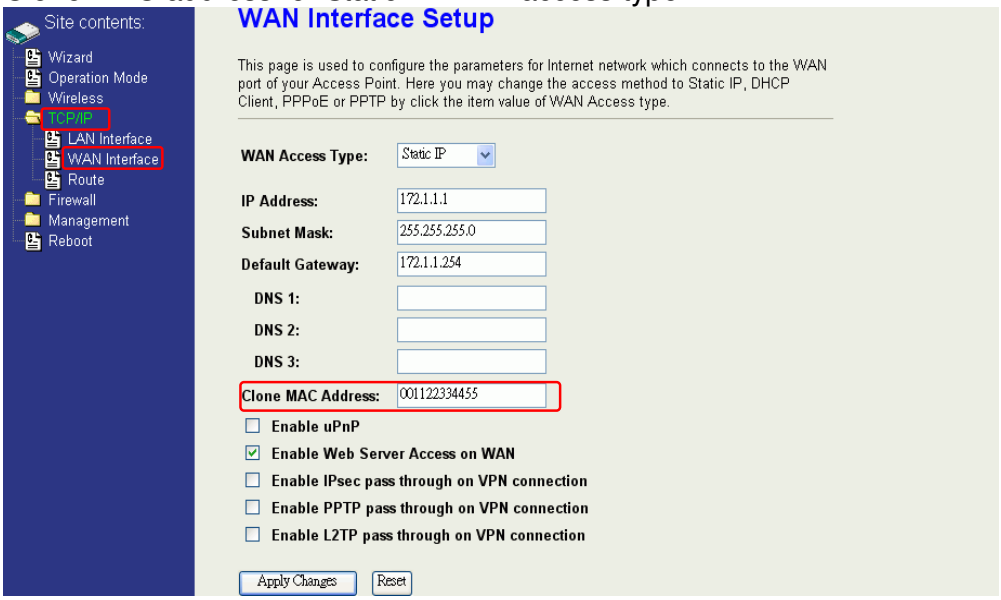
Enable uPnP: Enable uPnP, this function allows the device to be found and configured automatically by the system. (Ex. Window XP)

Configuring Clone MAC Address

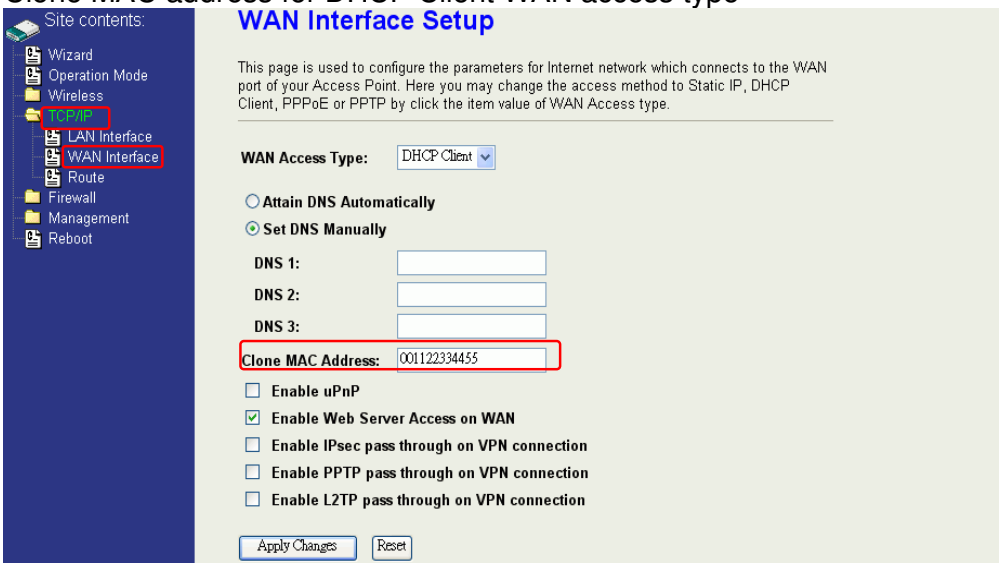
The device provides MAC address clone feature to fit the requirement of some ISP need to specify the client MAC address.

Physical WAN interface MAC Address clone

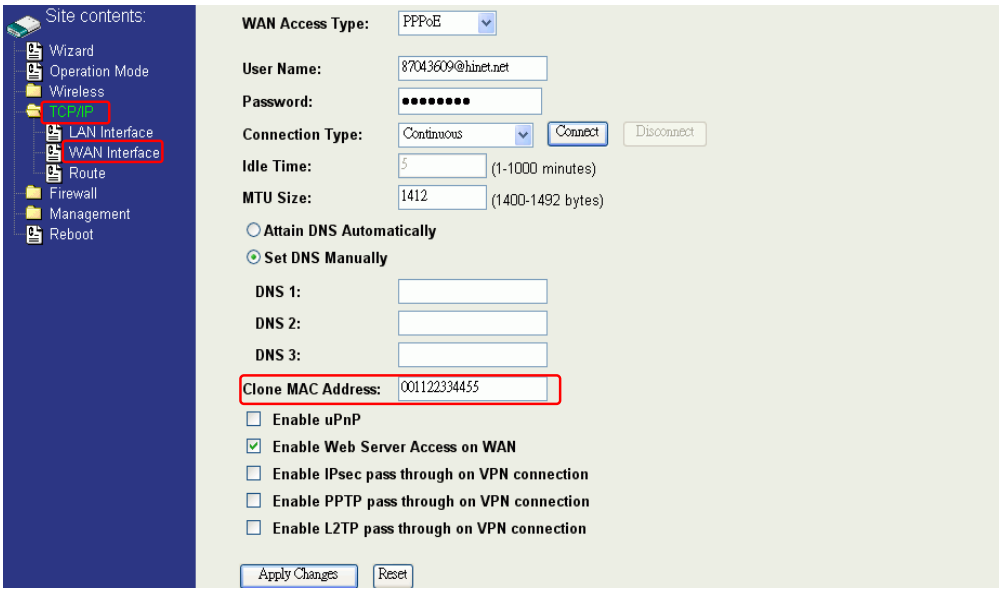
1. Clone MAC address for Static IP WAN access type


Site contents:
Wizard
Operation Mode
Wireless
TCP/IP
LAN Interface
WAN Interface
Route
Firewall
Management
Reboot
WAN Interface Setup
This page is used to configure the parameters for Internet network which connects to the WAN port of your Access Point. Here you may change the access method to Static IP, DHCP Client, PPPoE or PPTP by click the item value of WAN Access type.
WAN Access Type: Static IP
IP Address: 172.1.1.1
Subnet Mask: 255.255.255.0
Default Gateway: 172.1.1.254
DNS 1:
DNS 2:
DNS 3:
Clone MAC Address: 001122334455
Enable uPnP
Enable Web Server Access on WAN
Enable IPsec pass through on VPN connection
Enable PPTP pass through on VPN connection
Enable L2TP pass through on VPN connection
Apply Changes
Reset

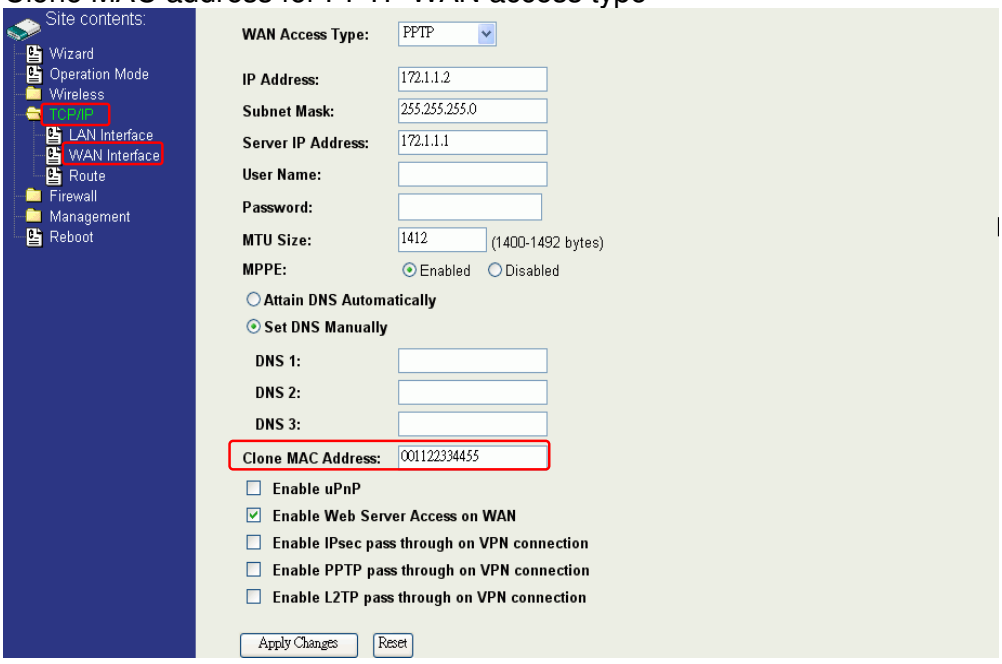
2. Clone MAC address for DHCP Client WAN access type


Site contents:
Wizard
Operation Mode
Wireless
TCP/IP
LAN Interface
WAN Interface
Route
Firewall
Management
Reboot
WAN Interface Setup
This page is used to configure the parameters for Internet network which connects to the WAN port of your Access Point. Here you may change the access method to Static IP, DHCP Client, PPPoE or PPTP by click the item value of WAN Access type.
WAN Access Type: DHCP Client
Attain DNS Automatically
Set DNS Manually
DNS 1:
DNS 2:
DNS 3:
Clone MAC Address: 001122334455
Enable uPnP
Enable Web Server Access on WAN
Enable IPsec pass through on VPN connection
Enable PPTP pass through on VPN connection
Enable L2TP pass through on VPN connection
Apply Changes
Reset

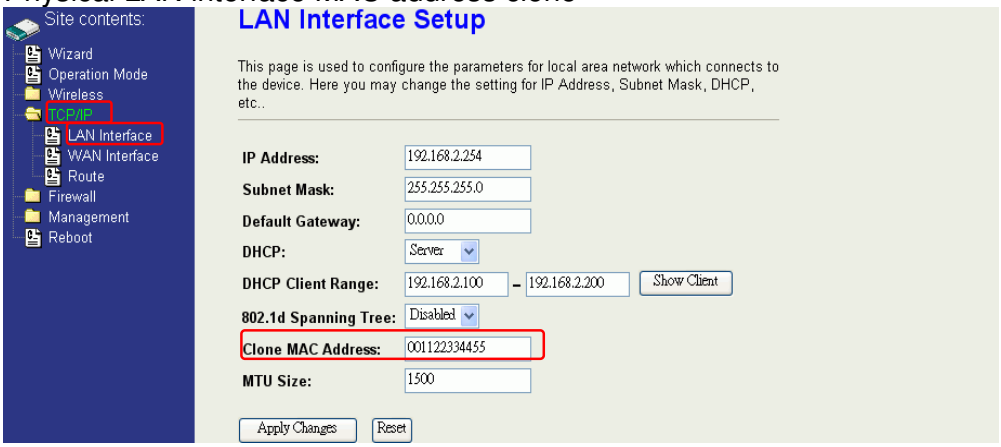
3. Clone MAC address for PPPoE WAN access type



4. Clone MAC address for PPTP WAN access type

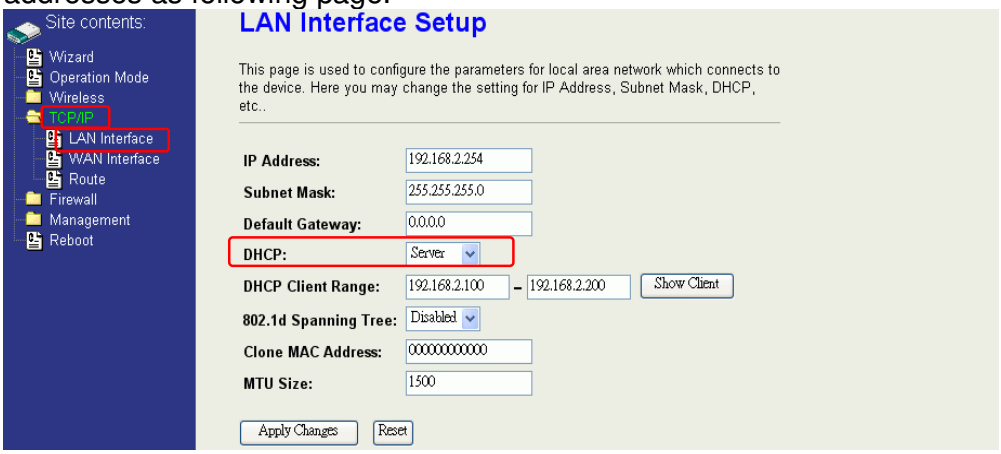


5. Physical LAN interface MAC address clone



Configuring DHCP Server

1. To use the DHCP server inside the device, please make sure there is no other DHCP server existed in the same network as the device.
2. Enable the DHCP Server option and assign the client range of IP addresses as following page.

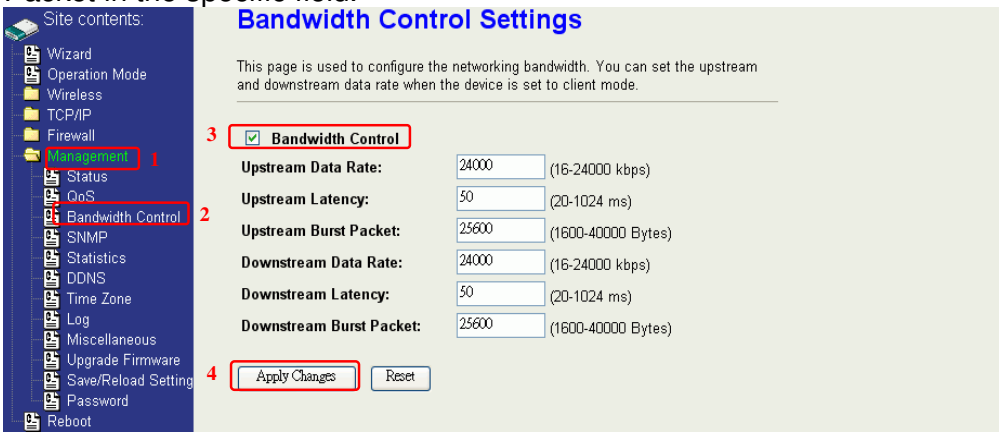


3. When the DHCP server is enabled and also the device router mode is enabled then the default gateway for all the DHCP client hosts will set to the IP address of device.

Bandwidth Control

This functionality can control Bandwidth of Up/Downstream

1. Enable Bandwidth Control and then enter Data Rate、Latency and Burst Packet in the specific field.



Note: Only device on **Client** mode or **WISP** mode this functionality can take effective.

2. Parameter Definition

Label	Description
Upstream Data Rate	Speed of transmit data that from Ethernet interface to Wireless interface.
Upstream Latency	Similar a waiting time the data queuing- time.
Upstream Burst Packet	Similar a buffer the data will into the buffer while the data is transmit or receive.
Downstream Data Rate	Speed of transmit data that from Wireless interface to Ethernet interface.
Downstream Latency	Similar a waiting time the data queuing- time.
Downstream Burst Packet	Similar a buffer the data will into the buffer while the data is transmit or receive.

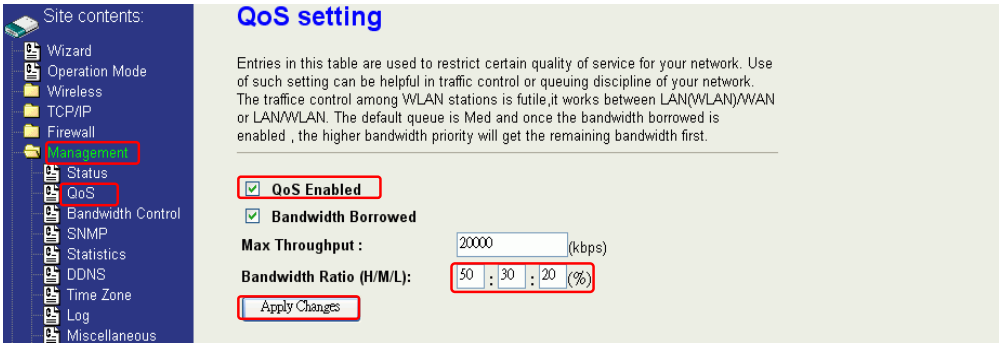
QoS (Quality of Service)

Filter Priority and IP-ToS have not finished yet and also fine tuning.

QoS allows you to specify some rules, to ensure the quality of service in your network. Such as use Bandwidth Priority concept to allocate bandwidth. This function can be helpful in shaping and queuing traffic from LAN (WLAN) to WAN or LAN to WLAN, but not WLAN to WLAN.

Enable the QoS and then fill in Bandwidth Ratio (H/M/L) the device has three Bandwidth Priorities High, Medium and Low user can allocation Bandwidth to

these and default is High:50%, Medium:30% and Low:20%.

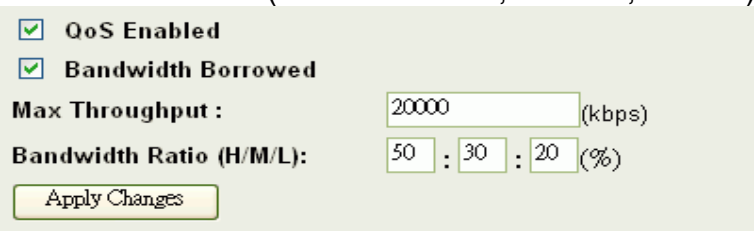

Site contents:
Wizard
Operation Mode
Wireless
TCP/IP
Firewall
Management
Status
QoS
Bandwidth Control
SNMP
Statistics
DDNS
Time Zone
Log
Miscellaneous
QoS setting
Entries in this table are used to restrict certain quality of service for your network. Use of such setting can be helpful in traffic control or queuing discipline of your network. The traffice control among WLAN stations is futile,it works between LAN(WLAN)/WAN or LAN/WLAN. The default queue is Med and once the bandwidth borrowed is enabled , the higher bandwidth priority will get the remaining bandwidth first.
QoS Enabled
Bandwidth Borrowed
Max Throughput :
20000
(kbps)
Bandwidth Ratio (H/M/L):
50 : 30 : 20 (%)
Apply Changes

The following table describes the priorities that you can apply to bandwidth.

Priority Level	Description
High	Typically used for voice or video applications that is especially sensitive to the variations in delay.
Medium	Typically used for important traffic that can tolerate some delay.
Low	Typically used for non-critical traffic such as a large number of transfers but that should not affect other application.

Click the **QoS** link under **Management** to open the QoS Setting page. This page is divided into three parts: basic settings, QoS rule settings, and current QoS setting table.

1. Enable QoS and enter Max Throughput (default 20Mbps) 、Bandwidth Ratio (default H:50%, M:30%, L:20%)

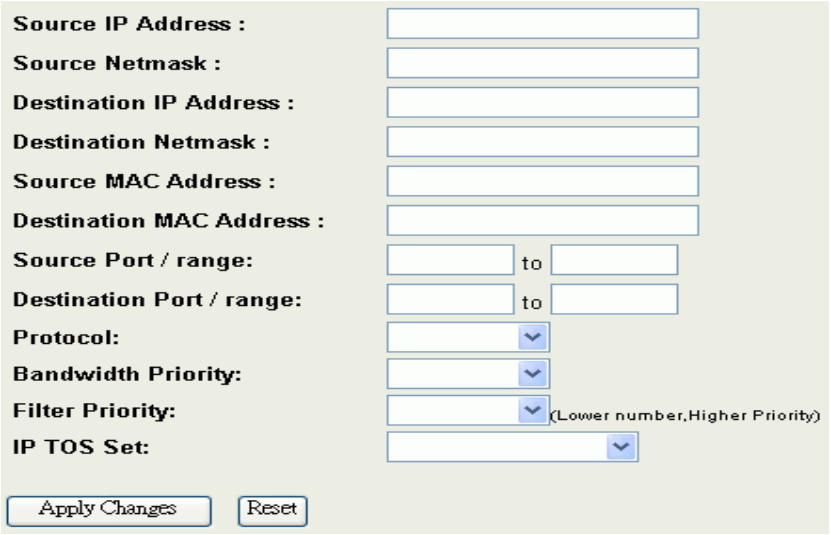


The following table describes the labels in this part.

Label	Description
QoS Enabled	Select this check box to enable quality of service.
Bandwidth Borrowed	Select this check box to allow a rule to borrow unused bandwidth. Bandwidth borrowing is decided by priority of the rules. Higher priority will get the

	remaining bandwidth first.
Max Throughput	Enter the value of max throughput in kbps that you want to allocate for one rule. The value should between 1200 kbps and 24000 kbps.
Bandwidth Ratio (H/M/L)	You can specify the ratio of priority in these fields. The range from 1 to 99. The High priority's ratio should higher than Medium priority's ratio and Medium priority's ratio should higher than Low priority's ratio.
Apply Changes	Click this button to save and apply your settings.

2. QoS Rule settings



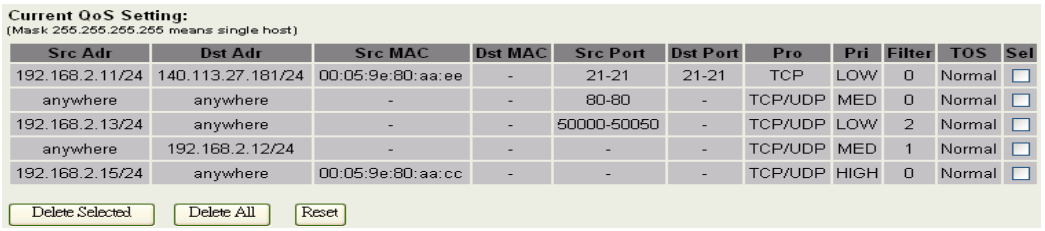
The following table describes the labels in this part.

Label	Description
IP Address	Enter source/destination IP Address in dotted decimal notation.
Netmask	Once the source/destination IP Address is entered, the subnet mask address must be filled in this field.
MAC Address	Enter source/destination MAC Address.
Port / range	You can enter specific port number or port range of the source/destination
Protocol	Select a protocol from the drop down list box. Choose **TCP**/**UDP**, **TCP** or **UDP**.
Bandwidth Priority	Select a bandwidth priority from the drop down list box. Choose **Low**, **Medium** or **High**.

Filter Priority	Select a filter priority number from the drop down list box. **Lower number gets higher priority** while two rules have the same bandwidth priority.
IP TOS Match	Select an IP **type-of-service** value from the drop down list box. Choose Normal Service, Minimize Cost, Maximize Reliability, Maximize Throughput, or Minimize Delay.
Apply Changes	Click this button to save and apply your settings.
Reset	Click this button to begin re-input the parameters.

Current QoS setting table

In this part, you can see how many rules have been specified. And you can see the detail about the rules and manage the rules. This table can input 50 rules at most.

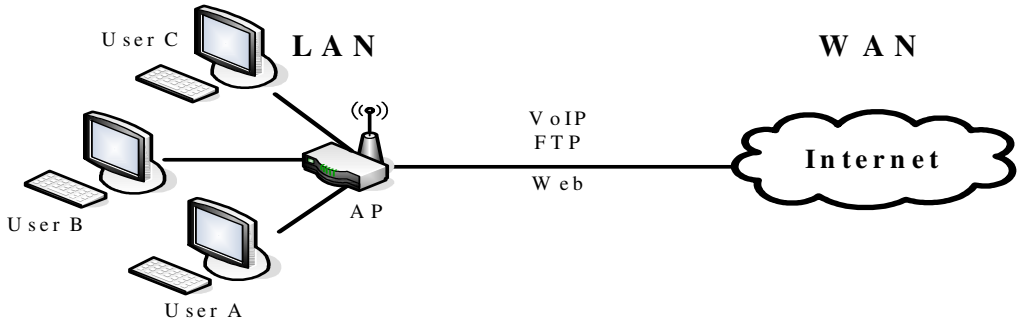


Current QoS Setting:
(Mask 255.255.255.255 means single host)

Src Adr	Dst Adr	Src MAC	Dst MAC	Src Port	Dst Port	Pro	Pri	Filter	TOS	Sel
192.168.2.11/24	140.113.27.181/24	00:05:9e:80:aa:ee	-	21-21	21-21	TCP	LOW	0	Normal	☐
anywhere	anywhere	-	-	80-80	-	TCP/UDP	MED	0	Normal	☐
192.168.2.13/24	anywhere	-	-	50000-50050	-	TCP/UDP	LOW	2	Normal	☐
anywhere	192.168.2.12/24	-	-	-	-	TCP/UDP	MED	1	Normal	☐
192.168.2.15/24	anywhere	00:05:9e:80:aa:cc	-	-	-	TCP/UDP	HIGH	0	Normal	☐

Delete Selected | Delete All | Reset

An example for usage



For example, there are three users in your network.

- User A wants to **browse the websites** to retrieve information.
- User B wants to use **FTP** connection to download a large file.
- User C wants to use **software phone** to connect with customer.

The voice is sensitive to the variations in delay; you can set **High** priority for **User C**. The FTP transmission may take a long time; you can set **Low** priority for **User B**.

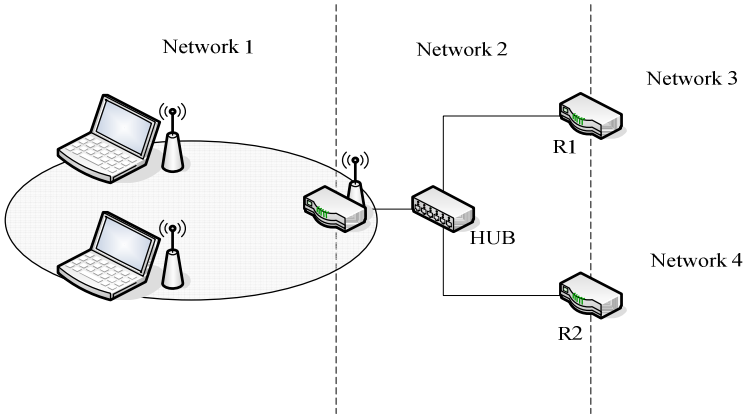
Current QoS Setting:
(Mask 255.255.255.255 means single host)

Src Adr	Dst Adr	Src MAC	Dst MAC	Src Port	Dst Port	Pro	Pri	Filter	TOS	Sel
192.168.2.11/24	anywhere	-	-	5060-5061	-	TCP/UDP	HIGH	0	Normal	☐
192.168.2.12/24	anywhere	-	-	21-21	-	TCP	LOW	0	Normal	☐
192.168.2.13/24	anywhere	-	-	80-80	-	TCP	MED	0	Normal	☐

Delete Selected | Delete All | Reset

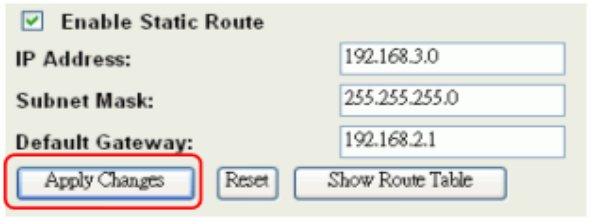
Static Route Setup

User can set the routing information let the Router knows what routing is correct also it can not learn automatically through other means.



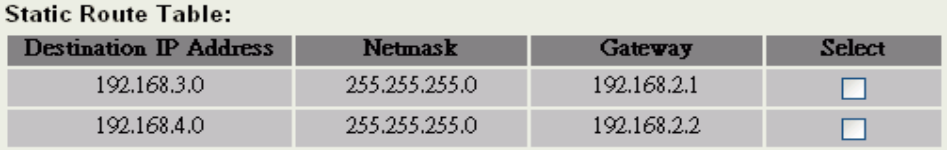
For example, if user wants to link the Network 3 and Network 4 separately from Network 1 that Routing Table configuration as below:

1. Enable Static Route in Route Setup of TCP/IP page and then enter IP Address of Network 3、Subnet Mask and IP Address of Router (R1) in Default Gateway field final click Apply Change button.



2. Enter IP Address of Network 4、Subnet Mask and IP Address of Router (R2) in Default Gateway field final click Apply Change button.

3. In Static Route Table there have two routings for Network 3 and Network 4

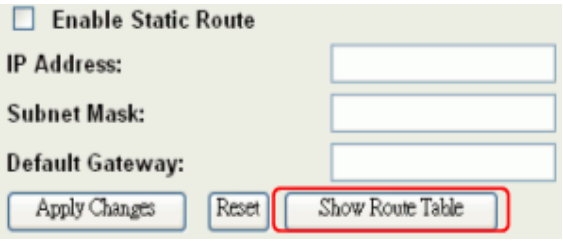


Dynamic Route Setup

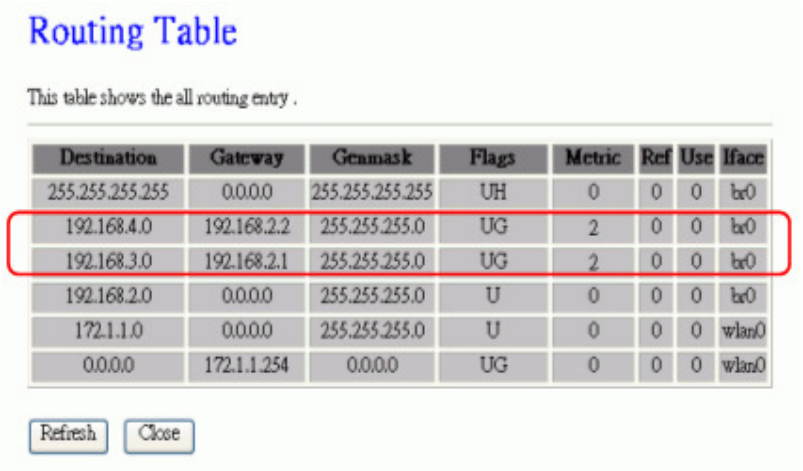
The Dynamic Route utilizes RIP1/2 to transmit and receive the route information with other Routers.

1. Enable Dynamic Route and then select RIP 1、RIP2 or Both to transmit/receive packets final click Apply Change button.

2. Click Show Route Table button to show Dynamic Route Table.

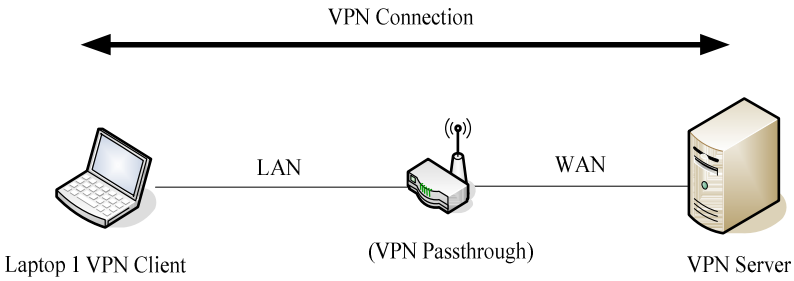


3. In Dynamic Routing Table there have two routings for Network 3 and Network 4

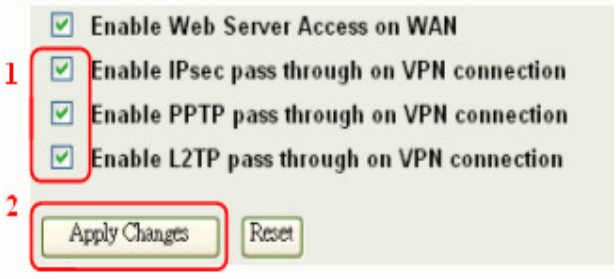


VPN Pass-through

This functionality let the device can Pass-through the VPN packets including PPTP/ L2TP/IPsec VPN Connection.



1. Check the VPN Pass-through in WAN Interface of TCP/IP Page that you want and then click Apply Changes button.


Enable Web Server Access on WAN
1
Enable IPsec pass through on VPN connection
Enable PPTP pass through on VPN connection
Enable L2TP pass through on VPN connection
2
Apply Changes
Reset

Using CLI Menu

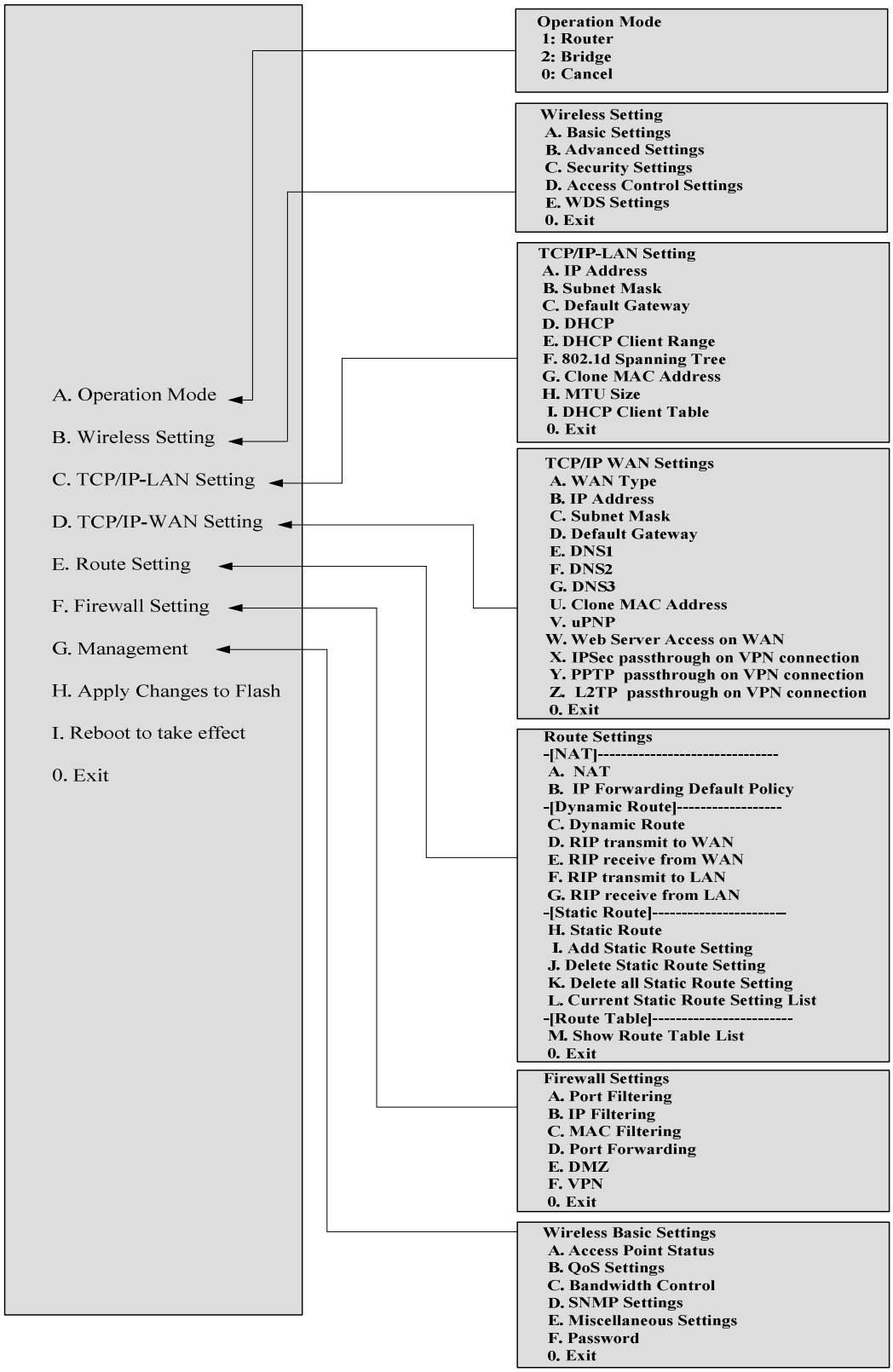
Start a SSH(Secure Shell) client session to login the device

The SSH server daemon inside device uses well-known TCP port 22. User must use SSH client utility such like Putty to login the device. The default password for user “root” is “qwert”, once user login the device then can change the password by CLI command.

Execute CLI program

This program won’t execute automatically when user login the device. User must manually execute it by typing the case-sensitive command “cli”. Please note that any modified settings won’t save permanently until user “Apply Changes to Flash” or reboot it. The new settings modified by CLI will take effect after rebooting the device.

Menu Tree List

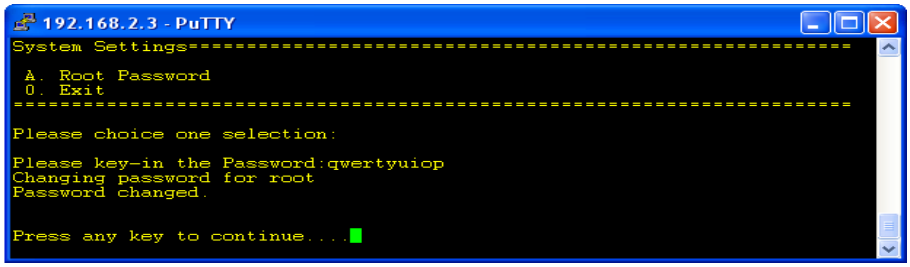

A. Operation Mode
B. Wireless Setting
C. TCP/IP-LAN Setting
D. TCP/IP-WAN Setting
E. Route Setting
F. Firewall Setting
G. Management
H. Apply Changes to Flash
I. Reboot to take effect
0. Exit
Operation Mode
1: Router
2: Bridge
0: Cancel
Wireless Setting
A. Basic Settings
B. Advanced Settings
C. Security Settings
D. Access Control Settings
E. WDS Settings
0. Exit
TCP/IP-LAN Setting
A. IP Address
B. Subnet Mask
C. Default Gateway
D. DHCP
E. DHCP Client Range
F. 802.1d Spanning Tree
G. Clone MAC Address
H. MTU Size
I. DHCP Client Table
0. Exit
TCP/IP WAN Settings
A. WAN Type
B. IP Address
C. Subnet Mask
D. Default Gateway
E. DNS1
F. DNS2
G. DNS3
U. Clone MAC Address
V. uPNP
W. Web Server Access on WAN
X. IPSec passthrough on VPN connection
Y. PPTP passthrough on VPN connection
Z. L2TP passthrough on VPN connection
0. Exit
Route Settings
-[NAT]----------
A. NAT
B. IP Forwarding Default Policy
-[Dynamic Route]----------
C. Dynamic Route
D. RIP transmit to WAN
E. RIP receive from WAN
F. RIP transmit to LAN
G. RIP receive from LAN
-[Static Route]----------
H. Static Route
I. Add Static Route Setting
J. Delete Static Route Setting
K. Delete all Static Route Setting
L. Current Static Route Setting List
-[Route Table]----------
M. Show Route Table List
0. Exit
Firewall Settings
A. Port Filtering
B. IP Filtering
C. MAC Filtering
D. Port Forwarding
E. DMZ
F. VPN
0. Exit
Wireless Basic Settings
A. Access Point Status
B. QoS Settings
C. Bandwidth Control
D. SNMP Settings
E. Miscellaneous Settings
F. Password
0. Exit

The System Management

Password Protection

Both Web-Browser and SSH configuration interfaces have password protection.

To disable the Web-Browser password protection just leave the “User Name” field to blank then click “Apply Changes” button.

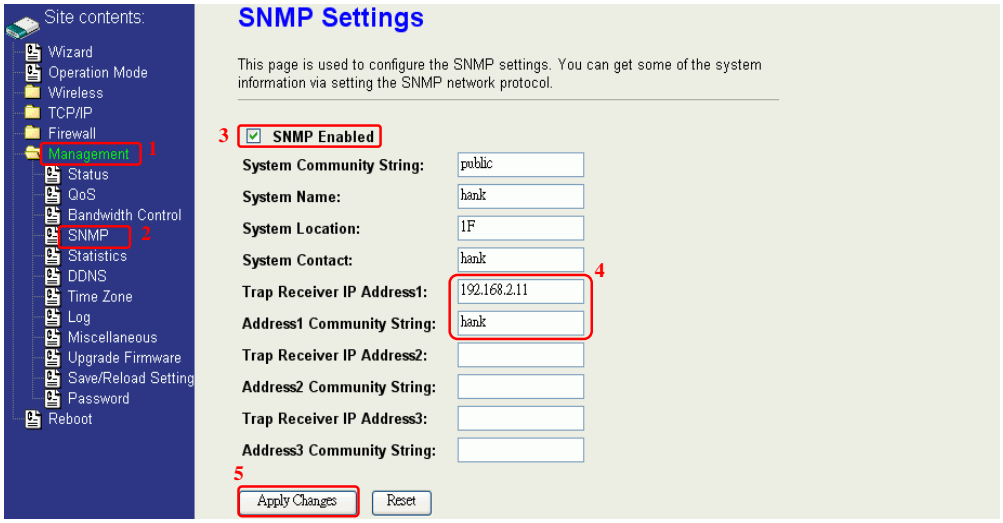


To change the password of user “root” for SSH session, please use the CLI menu item G. Management→F. Password

SNMP Agent

This device is compatible with SNMP v1/v2c and provides standard MIB II. Currently only the “public” community string is available and the modified settings by SNMP SET request will be lost after rebooting the device.

1. Enable SNMP and then enter IP Address of SNMP Manager in Trap Receiver IP Address field and Community String in System Community String field. Final click Apply Changes button.



2. Following Table describes the SNMP configuration parameter

Label	Description
System Community String	This is password sent with each trap to the SNMP Manager.
System Name	Type the Name which is name of device.
System Location	Type the Location which is location of device
System Contact	Type the Name which is person or group when the device has problem can find they.
Trap Receiver IP Address	Type the IP Address which is address of SNMP Manager.
Trap Receiver Community String	This is password receive with trap from the device (SNMP Agent).

3. SNMP Traps

Traps	Description
coldStart(0)	The trap from device after reboot the device
linkDown(2)	The trap is sent when any of the links are down. See the following table.
linkup(3)	The trap is sent when any of the links are UP. See the following table.
authenticationFailure(4)	The trap is sent when the device receiving gets or sets requirement with wrong community.

4. Private MIBs

OID	Description
1.3.6.1.4.1.99.1	Mode, Operation Mode in device.
1.3.6.1.4.1.99.2	SSID, SSID of the device
1.3.6.1.4.1.99.3	Channel, Channel of the device in WLAN
1.3.6.1.4.1.99.4	Band, 802.11g / 802.11b only
1.3.6.1.4.1.99.5	RSSI, Receive Signal Strength Index (Support AP and Client RSSI)
1.3.6.1.4.1.99.6	Active_Clients, The number of associate clients
1.3.6.1.4.1.99.7	Active_Clients_List, Client's Information (MAC Address, Data Rate, RSSI…etc)
1.3.6.1.4.1.99.8	Encryption, Encryption type of device in Wireless Network

1.3.6.1.4.1.99.1 - Mode

.1.3.6.1.4.1.99.1.2.1	MODE
.1.3.6.1.4.1.99.1.3.1	/bin/flash snmpget MODE
.1.3.6.1.4.1.99.1.100.1	0
.1.3.6.1.4.1.99.1.101.1	AP - Bridge

1.3.6.1.4.1.99.2 - SSID

.1.3.6.1.4.1.99.2.2.1	SSID
.1.3.6.1.4.1.99.2.3.1	/bin/flash snmpget SSID
.1.3.6.1.4.1.99.2.100.1	0
.1.3.6.1.4.1.99.2.101.1	hank

1.3.6.1.4.1.99.3 - Channel

.1.3.6.1.4.1.99.3.1.1	1
.1.3.6.1.4.1.99.3.2.1	CHANNEL
.1.3.6.1.4.1.99.3.3.1	/bin/flash snmpget CHANNEL
.1.3.6.1.4.1.99.3.100.1	0
.1.3.6.1.4.1.99.3.101.1	11

1.3.6.1.4.1.99.4 - Band

.1.3.6.1.4.1.99.4.2.1	BAND
.1.3.6.1.4.1.99.4.3.1	/bin/flash snmpget BAND
.1.3.6.1.4.1.99.4.100.1	0
.1.3.6.1.4.1.99.4.101.1	802.11bg

1.3.6.1.4.1.99.5 - RSSI

.1.3.6.1.4.1.99.5.2.1	RSSI
.1.3.6.1.4.1.99.5.3.1	/bin/flash snmpget RSSI
.1.3.6.1.4.1.99.5.100.1	0
.1.3.6.1.4.1.99.5.101.1	100

1.3.6.1.4.1.99.6 - Active_Clients

.1.3.6.1.4.1.99.6.2.1	ACTIVE_CLIENTS
.1.3.6.1.4.1.99.6.3.1	/bin/flash snmpget ACTIVE_CLIENTS
.1.3.6.1.4.1.99.6.100.1	0
.1.3.6.1.4.1.99.6.101.1	1

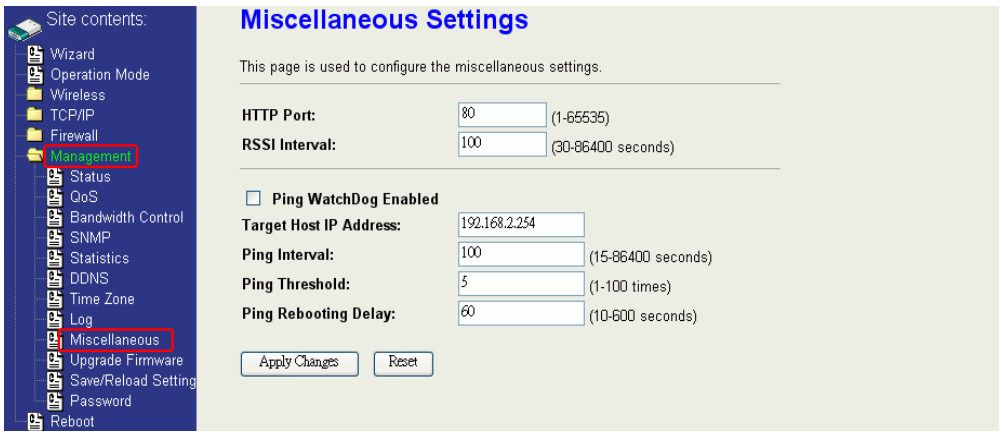
1.3.6.1.4.1.99.7 - Active_Clients_List

.1.3.6.1.4.1.99.7.2.1	ACTIVE_CLIENTS_LIST
.1.3.6.1.4.1.99.7.3.1	/bin/flash snmpget ACTIVE_CLIENTS_LIST
.1.3.6.1.4.1.99.7.100.1	0 MAC Data Rate RSSI
.1.3.6.1.4.1.99.7.101.1	00:13:02:03:51:5e,102,125,54,no,300,57(-55 dbm)

1.3.6.1.4.1.99.8 - Encryption

.1.3.6.1.4.1.99.8.2.1	ENCRYPTION
.1.3.6.1.4.1.99.8.3.1	/bin/flash snmpget ENCRYPTION
.1.3.6.1.4.1.99.8.100.1	0 AP-WEP
.1.3.6.1.4.1.99.8.101.1	WEP(AP),Disabled(WDS)

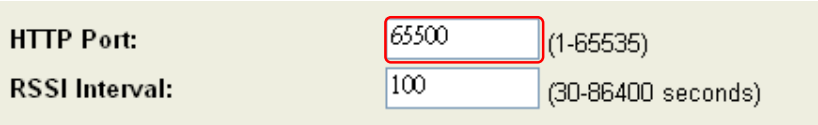
Miscellaneous Settings



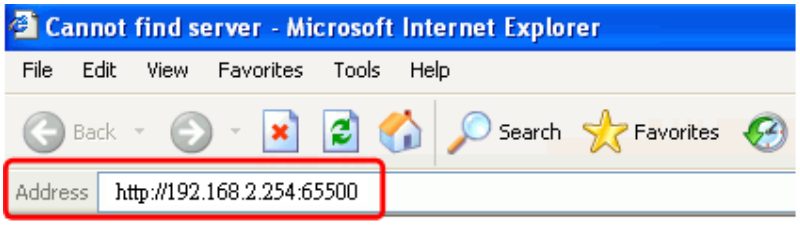
HTTP Port

The default http port is 80. For security concern, you can change the device's http port, to protect this web server from intrusion and attack.

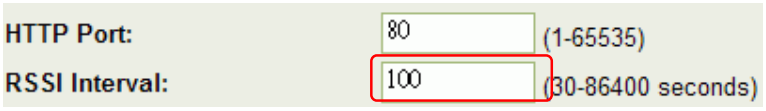
1. Entering the port number you want to change in HTTP PORT field, then click Apply Changes button.



2. After apply change, you should re-login the web server. Type http://192.168.2.254:65500/ in URL field.



RSSI Interval

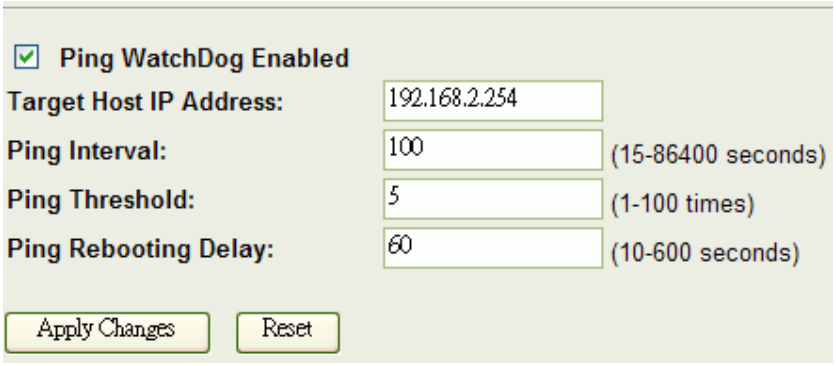


Input your RSSI Interval to specify the refresh time of RSSI information. The RSSI information can be found on the page of Wireless Basic Setting, Active Client Table, Wireless Site Survey and Status. Because it has to wait to receive the radio signal, the throughput of this device will be impacted if the interval is too short. The default interval is 100 seconds.

Ping WatchDog

Ping WatchDog Enabled:

Click to enable this function. This device can check its own status by ping another host. When user enable this option, the device perform ping to a specific network host. Once the ping is timeout, it may be caused by its network function crashes, and the device will reboot to fix it.

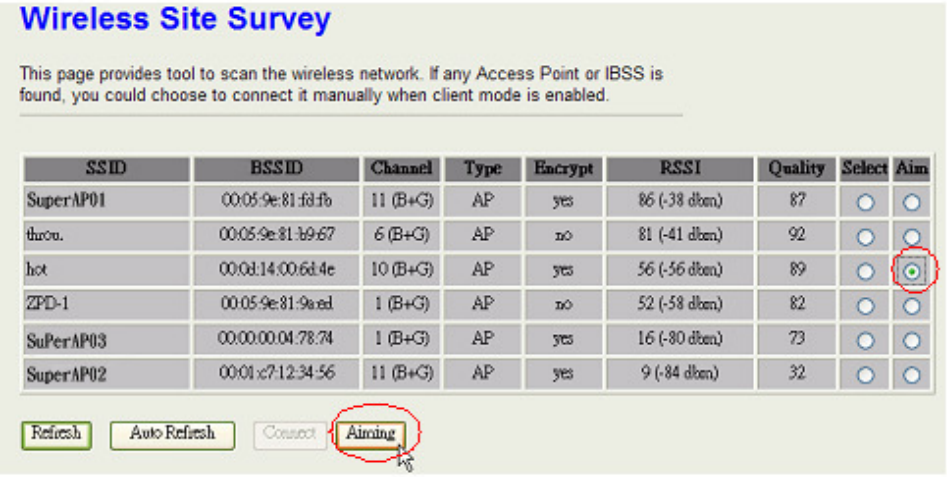


Following Table describes the Ping WatchDog configuration parameter

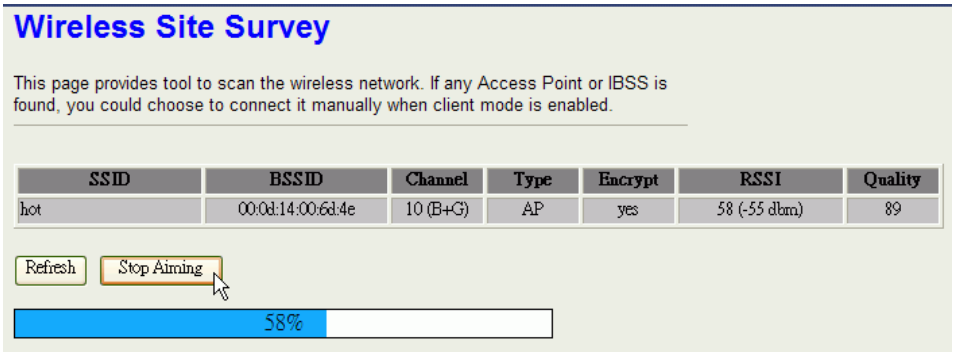
Label	Description
Target Host IP Address	Specify the IP Address of the Network host to ping.
Ping Interval	Specify the waiting time for the next ping. If this time is too short, it will impact the through of this AP. The default value is 100.
Ping Threshold	Specify the Ping-fail times of criteria. If this device ping fails several times continuously, and the fail times meet this criterion, it will perform reboot. The default value is 5.
Ping Rebooting Delay	The time before it starting rebooting. When it meets the Ping Threshold, it will wait for this time and then reboot. The default value is 60.

Aiming Tool

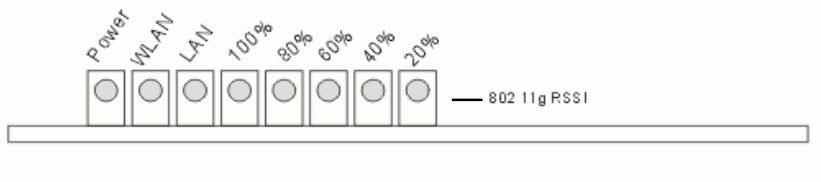
The “Aiming tool” can help the installer of the device to find the best direction targeting the specific Access Point or IBSS. It displays the RSSI of the specify SSID on the Wireless Site Survey page on the web and LED, so the installer can adjust the antenna of this device and visually check RSSI by LED.


Wireless Site Survey
This page provides tool to scan the wireless network. If any Access Point or IBSS is found, you could choose to connect it manually when client mode is enabled.
SSID
BSSID
Channel
Type
Encrypt
RSSI
Quality
Select
Aim
SuperAP01 00:05:9e:81:fd:f6 11 (B+G) AP yes 86 (-38 dbm) 87
throu. 00:05:9e:81:b9:67 6 (B+G) AP no 81 (-41 dbm) 92
hot 00:0d:14:00:6d:4e 10 (B+G) AP yes 56 (-56 dbm) 89
ZPD-1 00:05:9e:81:9a:ed 1 (B+G) AP no 52 (-58 dbm) 82
SuPerAP03 00:00:00:04:78:74 1 (B+G) AP yes 16 (-80 dbm) 73
SuperAP02 00:01:c7:12:34:56 11 (B+G) AP yes 9 (-84 dbm) 32
Refresh
Auto Refresh
Connect
Aiming

When this device is in AP Client mode, the user can click the “Aim” option of one SSID on the list in the Wireless Site Survey page and then click the “Aiming” button.

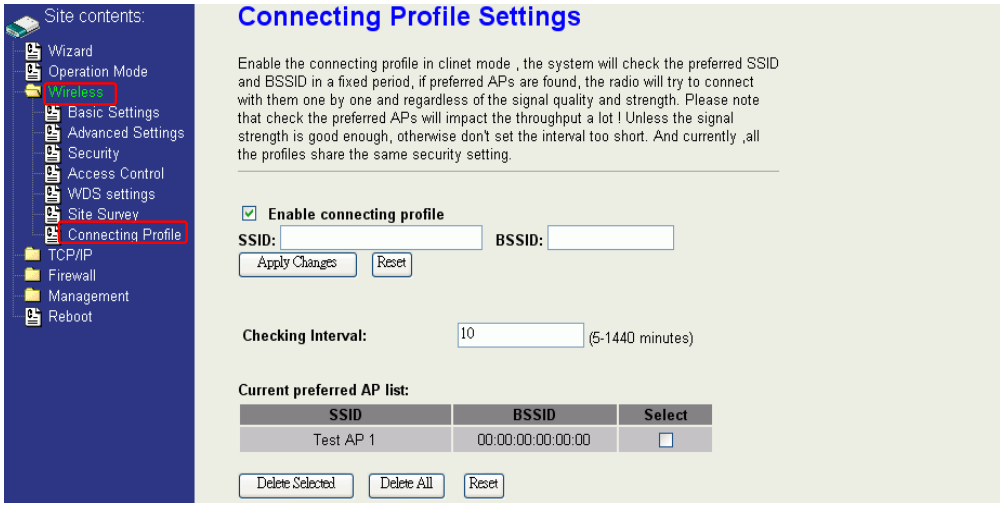


After clicking the “Aiming” button, RSSI will be displayed on the web page. It’s also displayed by the LED. The flashing frequency of each LED shows the RSSI; the more frequency the LED flashing, the more RSSI it detected. From 20% to100% on the following picture, the more LED on means the more RSSI detected. For example, if the 20% LED and 40% LED are both on and flash quickly, that means the RSSI of the specific SSID is approaching 40%.



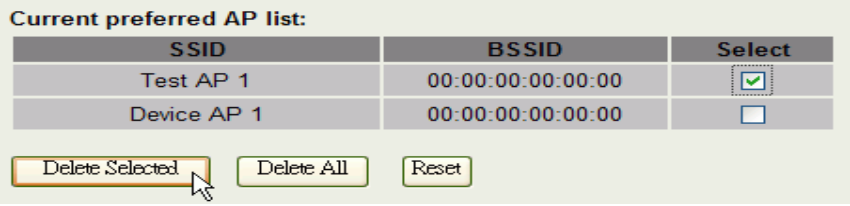
To stop the Aiming tool, the user just click “Stop Aiming” button.

Connecting Profile


Site contents:
Wizard
Operation Mode
Wireless
Basic Settings
Advanced Settings
Security
Access Control
WDS settings
Site Survey
Connecting Profile
TCP/IP
Firewall
Management
Reboot
Connecting Profile Settings
Enable the connecting profile in clinet mode , the system will check the preferred SSID and BSSID in a fixed period, if preferred APs are found, the radio will try to connect with them one by one and regardless of the signal quality and strength. Please note that check the preferred APs will impact the throughput a lot ! Unless the signal strength is good enough, otherwise don't set the interval too short. And currently ,all the profiles share the same security setting.
Enable connecting profile
SSID:
BSSID:
Apply Changes
Reset
Checking Interval:
10
(5-1440 minutes)
Current preferred AP list:
SSID
BSSID
Select
Test AP 1
00:00:00:00:00:00
Delete Selected
Delete All
Reset

To enable this function, this device must be in the client mode. User clicks to enable this function and input the SSID of preferred AP and then click “Apply Changes”. The BSSID field is an option in case of two preferred APs having the same SSID. In this case, this device will check both SSID and BSSID and connect to the matching AP. We can leave it empty in the normal case.

After enabling the connecting profile, the system will check the preferred SSID in a fixed period, if preferred APs are found, the radio will try to connect with them one by one from top to down of the list and regardless of the signal quality and strength. The users can put their most favorite AP on the top so it will be connected first. Please note that check the preferred APs will impact the throughput a lot! Unless the signal strength is good enough, otherwise don't set the interval too short. The default value is 10 minutes. And currently, all the profiles share the same security setting.



To delete one SSID in the list, users click the square to select it and click “Delete Selected” and then click “OK” in the pop-up window to confirm it. The user can delete the whole list once for all! Just click “Delete All” and then click “OK” in the pop-up window to confirm it.

To simply disable this function, the user just clicks to disable “Enable connecting profile”. The preferred AP list will be preserved for the next use.

Firmware Upgrade

Upgrading Firmware

The Web-Browser upgrading interface is the simplest and safest way for user, it will check the firmware checksum and signature, and the wrong firmware won’t be accepted. After upgrading, the device will reboot and please note that depends on the version of firmware, the upgrading may cause the device configuration to be restored to the factory default setting, and the original configuration data will be lost!

To upgrade firmware, just assign the file name with full path then click “Upload” button as the following page.

Memory Limitation

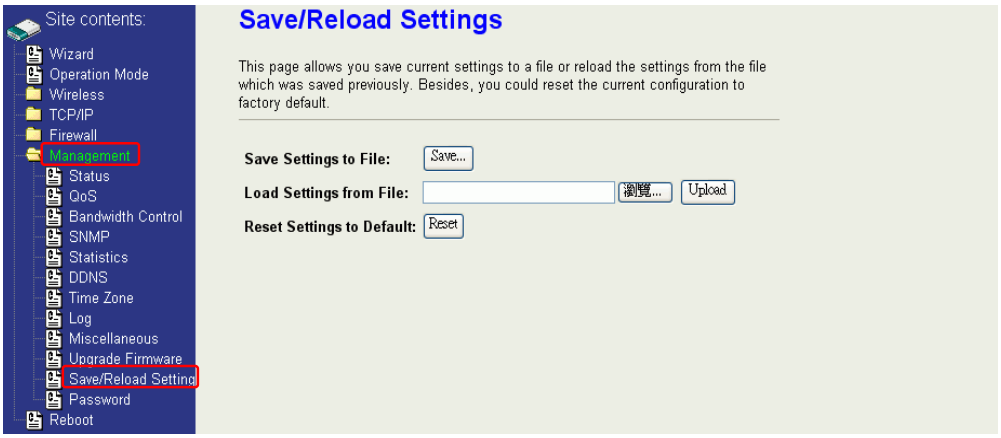
To make sure the device have enough memory to upload firmware, the system will check the capacity of free memory, if the device lack of memory to upload firmware, please temporarily turn-off some functions then reboot the device to get enough memory for firmware uploading.

Configuration Data Backup & Restore

Rest Setting to Factory Default Value

Since the device is designed for outdoor used, there is no interface outside the housing to reset the configuration value to the factory default value. The device provides the Web-Browser interface to rest the configuration data. After resetting it, the current configuration data will be lost and restored to factory default value.

Saving & Restoring Configuration Data



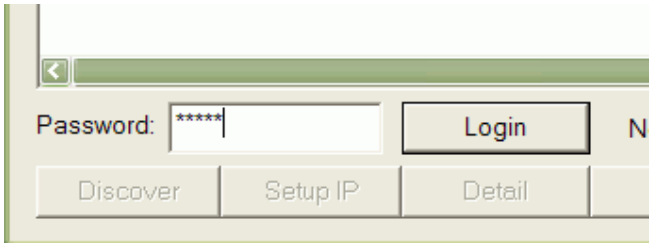
To save & restore configuration data of device, just assign the target filename with full path at your local host, then you can backup configuration data to local host or restore configuration data to the device.

Auto Discovery Tool

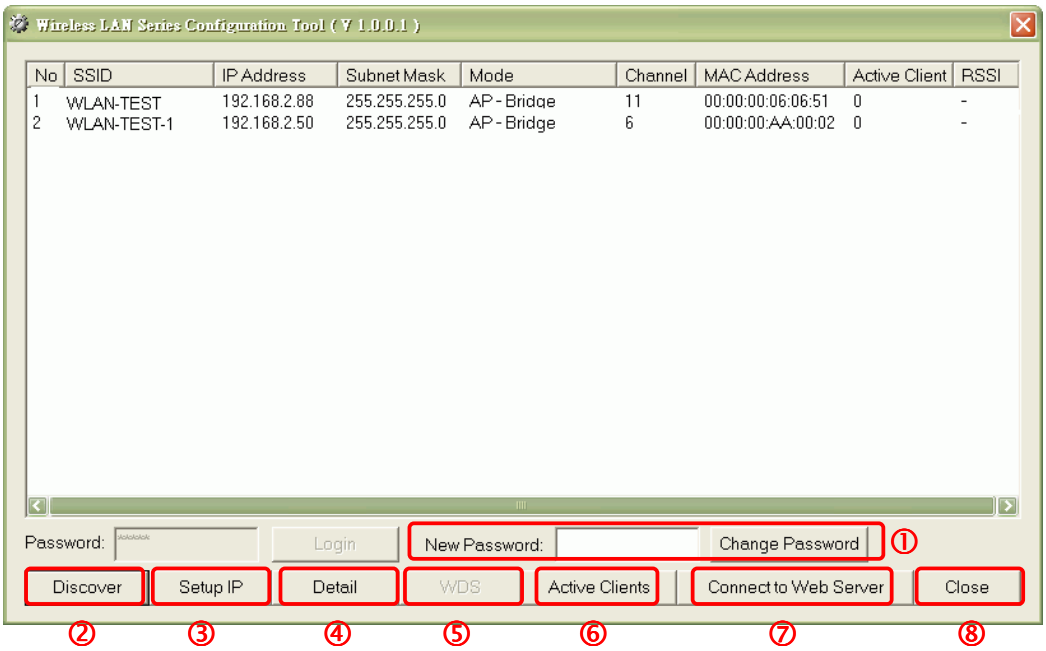
User can use this tool to find out how many devices in your local area network. The name of tool is WirelessConf.exe it in the packing CD.

Login:

When the user opens this Auto Discovery tool, the login password must be inputted. The default password is “qwert”. After inputting the password, click “Login” button to open the tool.

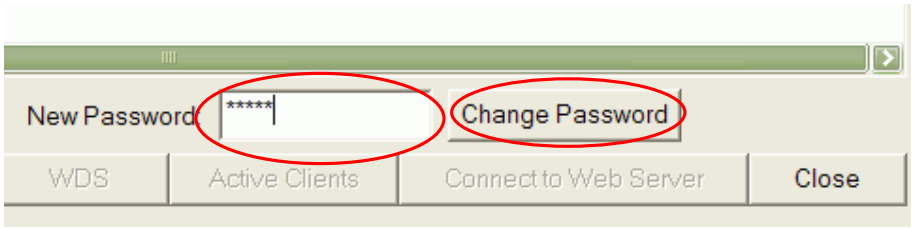


If the user doesn’t input the password or input a wrong password, he can’t login the tool and see the alert window.


Wireless LAN Series Configuration Tool (V 1.0.0.1)
No SSID IP Address Subnet Mask Mode Channel MAC Address Active Client RSSI
1 WLAN-TEST 192.168.2.88 255.255.255.0 AP - Bridge 11 00:00:00:06:06:51 0 -
2 WLAN-TEST-1 192.168.2.50 255.255.255.0 AP - Bridge 6 00:00:00:AA:00:02 0 -
Password:
Login
New Password:
Change Password
①
Discover
Setup IP
Detail
WDS
Active Clients
Connect to Web Server
Close
② ③ ④ ⑤ ⑥ ⑦ ⑧

1. Change Password

The user can change the default login password. Just enter new password after login this tool and click “Change Password” button.



The pop-up window shows that the password has been successfully changed.

2. Discover

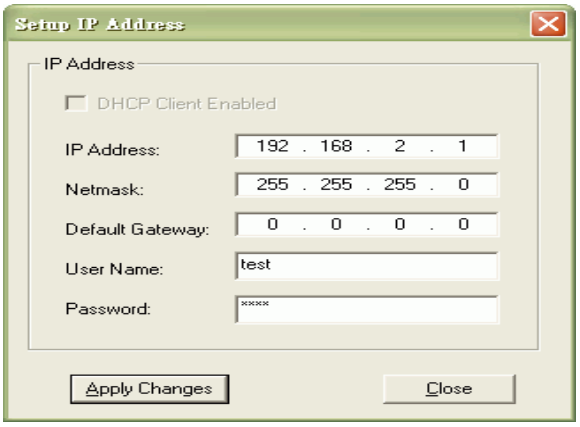
After press this button, you could see there are how many devices in your network. And you would see the basic information about these devices, such as:

- **SSID**
- **IP Address**
- **Subnet Mask**
- **Operation Mode**
- **Channel number**

- **MAC Address**
- **Active Client:** this field shows how many clients associated with the device
- **RSSI:** this field shows Received Signal Strength Indication while device is on AP-Client mode

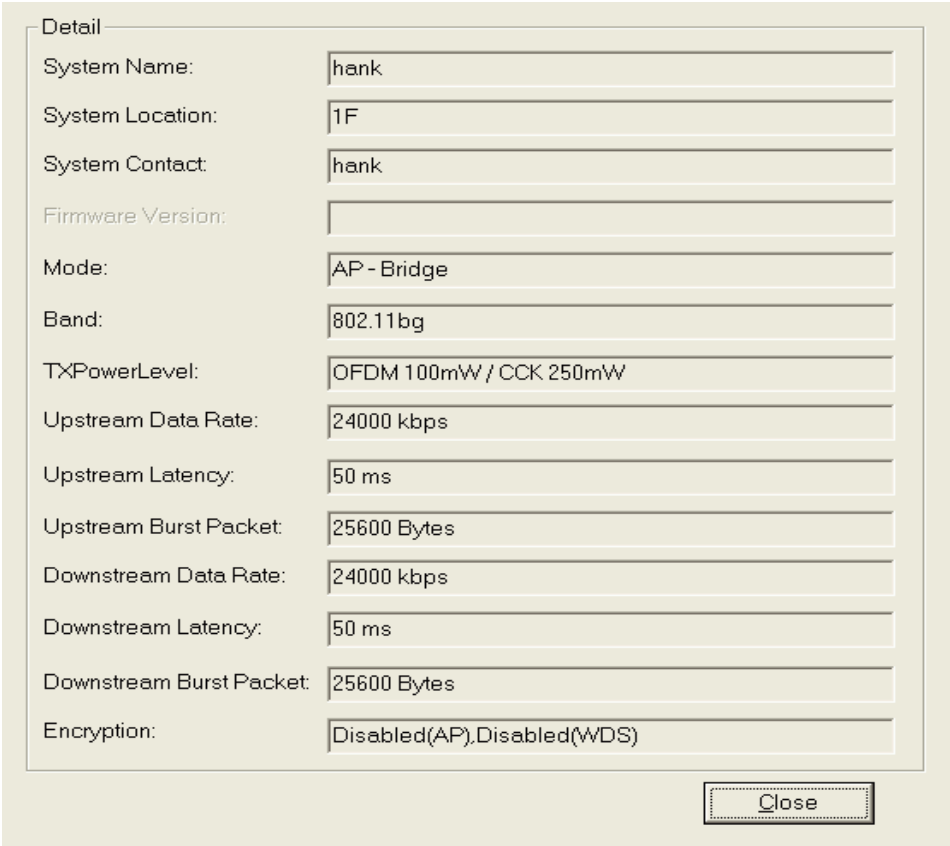
3. Setup IP

After you press the ***Setup IP*** button, you would see **Setup IP Address** window. You could change device's IP Address, Netmask, and Default Gateway in this window. But if the device's web server needs User Name and Password to login, you should fill in these two fields and then apply changes.



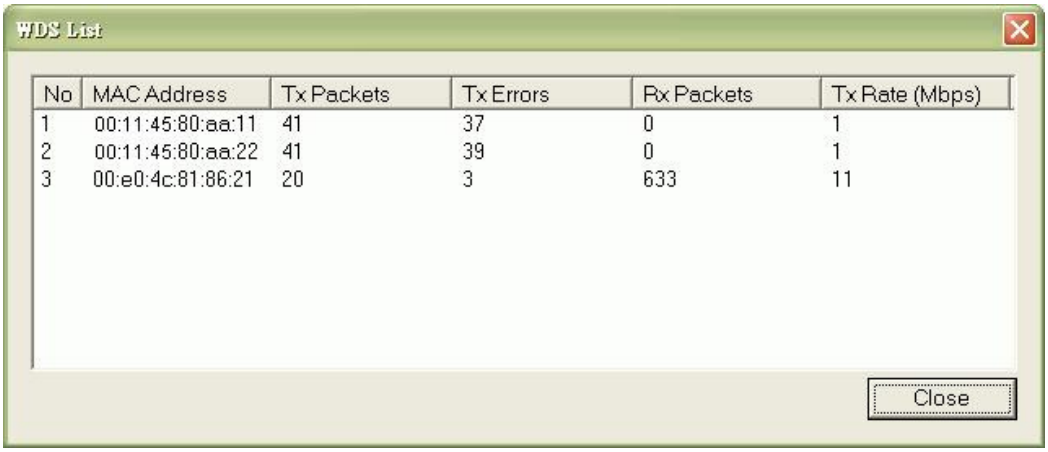
4. Detail

If you want to see more detailed information, you could press the ***Detail*** button, and then you would see the **Detail Information** window.



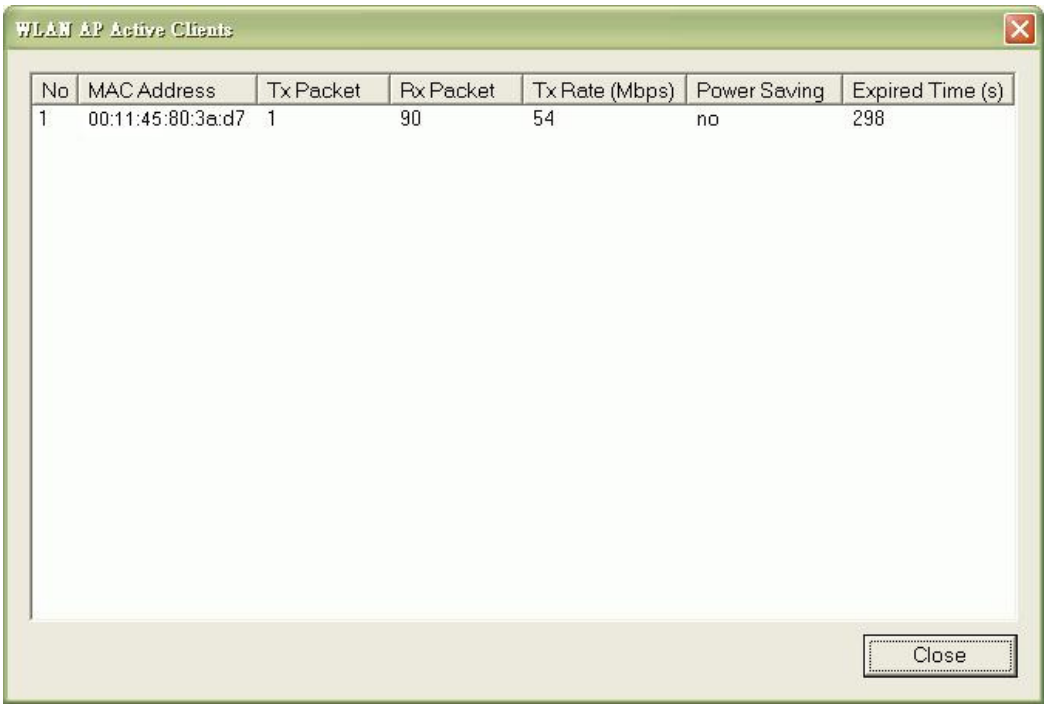
5. WDS

If the device you selected is on WDS mode or AP+WDS mode, you could press ***WDS*** button, and then you would see the **WDS List** window.


WDS List
No MAC Address Tx Packets Tx Errors Rx Packets Tx Rate (Mbps)
1 00:11:45:80:aa:11 41 37 0 1
2 00:11:45:80:aa:22 41 39 0 1
3 00:e0:4c:81:86:21 20 3 633 11
Close

6. Active Clients

After press ***Active Clients*** button, you would see WLAN AP Active Clients window. In this window, you could see client's information, such as:



7. Connect to Web Server

If you want connect to device's web server, you could press this button, or double-click on the device.

8. Close

You could press this button to leave this tool.

9. Reset the password to default password

If the user had changed the login password and forgot it, he can execute "ResetPassword.exe" to reset to the default password. When the password has been reset by this program, the following message window will be prompt on screen. Then the user can use the default password "qwert" to login the tool.